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TRANSACTIONS

OF THE

Iowa State Medical Society,

For the Year 1890,

BOSTON MEDICAL
NOV 17 1891
LIBRARY ASS'N.

Des Moines, April 16, 17 and 18.

VOL. VIII.

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The Society does not hold itself responsible for the views enunciated in the papers read at its meetings.

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PROCEEDINGS

OF THE

Thirty-Eighth Annual Session

OF THE

IOWA STATE MEDICAL SOCIETY.

HELD AT

Des Moines, April 16, 17 and 18, 1890.

FIRST DAY—MORNING SESSION.

DES MOINES, IOWA,
April 16, 1890.

The Society was called to order at 10:30 A. M. by the President, Dr. J. M. Emmert, of Atlantic, the place of meeting being "Our Circle Hall," on Locust Street, between Fifth and Sixth streets. Opened with prayer by the Rev. Dr. Watson, of Des Moines.

OFFICERS PRESENT:

President—J. M. EMMERT, Atlantic.
First Vice-President—G. F. JENKINS, Keokuk.
Second Vice-President—E. F. CLAPP, Iowa City.
Secretary—C. F. DARNALL, West Union.
Assistant Secretary—J. W. COKENOWER, Des Moines.
Treasurer—G. R. SKINNER, Cedar Rapids.

Following is a list of permanent members who were in attendance and registered from time to time during the meeting:

J. M. Emmert, Atlantic.
H. M. Dean, Muscatine.
J. M. Barstow, Council Bluffs.
G. R. Skinner, Cedar Rapids.
C. F. Darnall, West Union.
J. C. Hughes, Keokuk.
R. E. Conniff, Sioux City.
Gershom H. Hill, Independence.

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J. A. Scroggs, Keokuk.
J. R. Lewis, Grinnell.
Geo. F. Jenkins, Keokuk.
S. B. Chase, Osage.
J. D. Reynolds, Creston.
Thos. J. Maxwell, Keokuk.
H. R. Page, Des Moines.
F. H. Little, Muscatine.
D. W. Smouse, Dubuque.
A. J. Hobson, Bristow.
Jas. Taggart Priestley, Des Moines.
J. R. Guthrie, Dubuque.
H C. Eschbach, Albia.
Rebecca Hanna, Red Oak.
Emmett Porterfield, Spring Hill.
B. B. Grover, Grimes.
H. C. McCleary, Indianola.
J. W. La Grange, Marion.
E. H. Hazen, Davenport.
O. D. Benson, Des Moines.
E. B. Plumb, Ames.
J. W. Kime, Ft. Dodge.
Ira L. Welch, Humboldt.
H. M. Templeton, Ames.
L. C. S. Turner, Colfax.
A. D. King, Des Moines.
J. S. Watts, Millersburgh.
W. C. Howe, Menlo.
W. C. Pipino, Des Moines.
W. Woodbridge, Waubeek.
A. L. Wright, Carroll.
Edith M. Gould, Des Moines.
D. Macrae, Council Bluffs.
Ira D. Payne, Linden.
J. D. McCleary, Indianola.
J. H. Nichol, Lacona.
J. T. Coveny, Perry.
F. C. Mehler, New London.
E. R. Smith, Toledo.
C. M. Hobby, Iowa City.
Rosa Upson, Marshalltown.
C. H. Pinney, Council Bluffs.
J. Williamson, Ottumwa.
S. W. Stutsman, Burlington.
Wm. Jepson, Sioux City.
C. E. Ruth, Muscatine,
E. T. Twining, Des Moines.
S. W. Moorehead, Keokuk.
H. C. LeRoy, Des Moines.
F. M. Hiett, Red Oak.
C. M. Schindel, Cumberland.
W. F. Peck, Davenport.
Geo. B. Little, Burlington.
Allen A. Rawson, Corning.
W. H. Kinnier, Dubuque.
D. C. Bice, DeSoto.
James F. McCarthy, Dubuque.
F. W. Porterfield, Atlantic.
I. P. Brubaker, Des Moines.
E J. McGorrisk, Des Moines.
D. S. Grossman, Minburn.
Wm. J. Latta. Des Moines.
D. J. Brookings, Woodward.
J. S. Love, Springfield.
S. N. Pierce, Cedar Falls
C. M. Drumeler, Panora.
D. J. Townsend, Lohrville.
J. R. Gorrell, Newton.
H. E. Hunter, Newton.
E. H. King, West Liberty.
D. S. Fairchild, Ames.
Mrs. A. B. S. Turner, Colfax.
D. Scofield, Washington.
Geo. P. Hanawalt, Des Moines.
D. A. Hoffman, Oskaloosa.
W. F. Graham, Atlantic.
I. M. Harsh, Griswold.
W. W. Hale, Des Moines.
M. I. Powers, Parkersburg.
A. A. Deering, Boone.
J. B. Tedrow, Williams.
H, D. Ensign, Boone.
Lewis Schooler, Des Moines.
A. W. McClure, Mt. Pleasant.
John Riley, Exira.
J. S. Ormiston, Chelsea.
A, R. Leith, Wilton.
J. C. Hinsey, Ottumwa.
J. B. Carder, Brooklyn.
H. L. Getz, Marshalltown.
J. P. Savage, Sioux City.
S. N. Harvey, Neola.
Mrs. M. Frederick, Des Moines.
O. E. Evans, Gowrie.

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H. S. Farr, Madrid.
W. H. Ward, Des Moines.
S. A. Spilman, Ottumwa.
W. L. Nicholson, Ft. Dodge.
Elizabeth Hess, Iowa City.
M. A. Dashiell, Indianola.
Thos. S. Parr, Indianola.
Oscar Burbank, Waverly.
Oscar Fordyce, Guthrie Center.
Margaret A. Cleaves, Des Moines.
John M. Ristine, Cedar Rapids.
Edward L. Baker, Indianola.
Wm. D. Middleton, Davenport.
J. W. Cokenower, Des Moines.
F. M. Everett, Corydon.
J. H. Kersey, Stuart.
C. B. Powell, Albia.
O. W. Lowery, Grand Junction.
Jason Roberts, Osceola.
T. P. Stanton, Chariton.
Albert A. Anderson, Des Moines.
D. W. Crouse, Waterloo.
D. W. Finlayson, Des Moines.
C. C. Smead, Sully.
J. P. Crawford, Davenport.
P. Joor, Maxwell.
W. M. Park, Indianola.
W. L. Ross, Omaha, Neb.
T. J. Caldwell, Adel.
M. J, Murphy, Cumberland.

Following is a list of delegates whose credentials were approved by the Committee on Arrangements, and who, being duly elected, signed the constitution and became permanent members:

Botna Valley Medical Society—C. L. Campbell, Lewis; G. P. Hoering, Walnut; J. E. Sansom, Tipton.

Cedar Valley Medical Society—O. J. Fullerton, Waterloo; J. F. Cole, Oelwein; O. J. Smith, Dunkerton.

Council Bluffs Medical Society—H. B. Jennings, Council Bluffs.

Cherokee County Medical Society—J. G. Biller, Correctionville.

Central District Medical Society—W. N. Green, Webster City; P. S. Moser, Boone; C. C. Cottle, Marshalltown; C. W. Henry, Coon Rapids.

Calhoun County Medical Society—C. I. Burt, Lake City.

Des Moines County Medical Society—Mary B. Tuttle, Burlington.

Des Moines Valley Medical Society—J. E. Stanton, Chariton; M. F. Riordan, Melrose: W. A. Todd, Chariton; Chas. E. Wallace, New Sharon.

Dallas County Medical Society—J. A. Noel, Redfield; P. T. Waters, Redfield; W. J. Williams, Adel; Wm. Hinshaw, Dallas Center.

Fayette County Medical Society—I. Pattison, Oelwein; H. Newell Sill, Strawberry Point; R. P. Berry, Clermont.

Guthrie County Medical County—A. M. Lakin, Yale; C. O. Sones, Panora.

Iowa Union Medical Society—F. H. Cutler, Bancroft; James W. Dalby, Cedar Rapids; Kate A. Mason, Mt. Vernon; Eugene A. Crouse, Grundy Center.

Iowa City Medical Society—Elizabeth Hess, Iowa City.

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Iowa Hospital for Insane, Mt. Pleasant—Paul F. Straub, Mt. Pleasant.

Jasper County Medical Society—D. A. Hoffman, Oskaloosa; J. T. Harp, Prairie City.

Jefferson County Medical Society—D. H. Worthington, Fairfield.

Keokuk County Medical Society—J. Cal Williams, W. E. Gamble, What Cheer; C. H. Frizelle, Viele.

Muscatine County Medical Society—J. S. Braunsworth, Muscatine.

Muscatine County Society of Physicians and Surgeons—Laura House Branson, West Branch.

Madison County Medical Society—T. Roberts, St. Charles.

Northwestern Medical Association—J. C. Davies, Emmetsburg; J. M. Carroll, Laurens; W. W. Beam, Rolfe; G. Baldwin, Ruthven; B. S. Louthan, Sutherland.

North Iowa Medical Society—J. H. Thornton, Lansing; Mrs. M. B. Sharp, Des Moines.

Polk County Medical Society—T. F. Kelleher, J. W. Adams, Frances S. Carothers, A. W. Hoff, G. S. Bagley, O. D. Benson, Des Moines; Charles E. Stoner, Altoona.

Scott County Medical Society—J. P. Crawford, Davenport.

State Pharmaceutical Association—Rosa Upson, Marshalltown.

Story County Medical Society—C. W. Allen, Story City; E. A. Rawson, Slater; E. C. Scott, Maxwell.

Washington County Medical Society—L. B. Oliver, Dublin.

Wapsie Valley Medical Society—E. H. Dunn, Elma.

Many visiting physicians were present, who were recommended by the Committee on Arrangements to be made members by invitation, and were introduced to the Society. The following is a partial list as they were presented during the session:

Drs. Perry H. Millard and J. F. Fulton, St. Paul, Minn., H. E. W. Barnes, Macksburg; J. R. Dosh, Stuart; J. D. Miles, Schuyler, Neb.; G. N. Skinner, Truro, Iowa; A. D. Leech, G. N. Neff, Farmington; G. H. Eiskamp, Washington.

Upon motion of Dr. T. J. Caldwell the reading of the last minutes was dispensed with.

Letters of regret were read from Drs. Gilman and Getz, and a telegram from Drs. J. W. and I. W. Smith, all expressing hearty wishes for a profitable and enjoyable meeting.

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A letter was read from the Secretary of the Illinois State Medical Society, suggesting that this Society appoint a committee to co-operate with others of a similar nature, in taking charge of proper representation of professional matters at the World's Fair in 1893. On motion the chair appointed Drs. Maxwell, Caldwell, and Peck, a committee to consider the letter and report at a subsequent meeting.

After deciding to commence the afternoon meeting at 2 o'clock, the Society took up the program.

In the temporary absence of Dr. Priestley, Chairman of the Section on Medicine, Dr. J. G. Biller, of Correctionville, read a paper entitled "Phlebitis," which was discussed by Drs. Peck, Maxwell, S. B. Chase, and Riley. The discussion was closed by Dr. Biller, and on motion the paper referred to the Committee on Publication.

Dr. James Taggart Priestley, as Chairman of Section on Practice of Medicine, read the report of progress during the year, which after discussion by Drs. S. B. Chase and Sill, was received and referred to the proper committee.

The meeting then adjourned until the time stated.

FIRST DAY.—AFTERNOON SESSION.

Called to order by the President at 2 o'clock, and for the purpose of giving members time to reach the city by afternoon trains, the hour for the President's address was changed to 3, and the Society proceeded with the program.

Dr. Geo. F. Jenkins, of Keokuk, read his paper entitled "Nature and Treatment of Diphtheria," which was discussed by Drs. Kinnier, LaGrange, F. W. Porterfield, Kennedy, Priestley, Sill, Crouse, and closed by the author. Paper on motion was received and referred.

Dr. Jenkins, First Vice President, was called to the chair, when the President, Dr. J. M. Emmert, of Atlantic, presented the following address:

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PRESIDENT'S ADDRESS.

In designating the duties of the presiding officer of the Society, the constitution requires that he shall deliver an address on some suitable subject at the opening of the annual meeting subsequent to his election.

The subject to which I invite your attention to-day is one of the greatest importance. It is: "Should persons who Have Inherited Disease Detrimental to Society and the State be Allowed to Marry?" This is an age of reform. We have national, social and religious reforms. The trend of modern thought is along this line, and the brightest minds, deepest thinkers and most brilliant investigators are arousing the world to the fact that the human race can and should be made better intellectually, physically and morally. The medical profession should be in the front upon all questions bearing upon the advancement of humanity. Her voice should be heard upon all topics involving the laws of heredity and selection. It goes without question that if the laws are rightly obeyed the human race will soon be upon the ascending scale of development, instead of the descending, a regeneration instead of a degeneration. My old teacher, Prof. S. D. Gross, sounded the key-note of this subject when he said: "The day has arrived when the people must be aroused to a deeper and more earnest sense of the people's welfare, and suitable measures adopted for the protection as well as the better development of their physical, moral and intellectual powers. This is the great problem of the day, the question which you, as the representatives of the rising generation of physicians should urge in season and out of season upon the attention of your fellow-citizens; the question which alone and beyond all others should engage your most serious thoughts and elicit your most earnest co-operation." What are the suitable means we are to adopt, and how is the rising and coming generation to be protected against themselves? What does Prof. Gross mean by this warning? He meant that inheritance, acquired vices, wrong methods of education, and the demands of modern society, all contribute to the lowering of the vital forces, and are the factors in the degeneracy of the human family. The question then arises, how are we to prevent these agents of demoralization? What is the remedy? I desire to discuss alone

THE QUESTION OF HEREDITY.

From the earliest times down to the present, heredity not only in disease, but in crime, has been acknowledged. The Divine command that the sins of the father be visited upon the children to the third and fourth generation is still in force. Our penitentiaries, insane asylums and charitable institutions prove to us that the Divine injunction has not been removed. And the injunction will never be removed so long as we continue to violate every law, both Divine and human, in the propagation of the human species. "For still they knew, and ought to have still remembered, the high injunction not to taste that fruit." These beautiful words of Milton ought to teach us a more beautiful lesson. I

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ask again, what is the remedy by which we may rid society of this incubus, and relieve the ship of state of a load that if continued or increased may sink her. Every thinking man or woman will say stop the growth of this evil. But how are we to stop it? Every human being in this free and enlightened country has a right to life, liberty and the pursuit of happiness. There is a natural jealousy of any attempt to encroach upon what is supposed to be the popular right. But it has been proven by laws passed and enforced that the state has also a right to remove nuisances, quarantine persons, even tear them from the bosom of their families when their presence is detrimental or dangerous to the general good, even when they have commited no crime against the laws of the community in which they live. If the state has the right (and it is acknowledged) it also has the right to prevent by marriage persons who have vicious habits, or certain inherited weaknesses, when the past has demonstrated beyond doubt that the offspring of such persons are almost sure to be a burden upon the state and a menace to society. To put it upon no higher ground than that of dollars and cents, the state cannot afford to allow the continuance of a system that brings into existence human beings who do not, and cannot, contribute to her welfare, but instead, are a burden or

PUBLIC CHARGE FROM BIRTH TO DEATH.

There is but little restriction upon marriage in the state of Iowa. Section 2188 of the Code contains all there is upon the subject. It is as follows: "Such license must not in any case be granted where either party is under age necessary to render the marriage absolutely valid, nor shall it be granted where either party is a minor without the previous consent of the parents or guardians of such minor, nor where the condition of either party is such as to disqualify him from making any other civil contract." The insane and idiotic alone are disqualified from making a civil contract.

This ought also to disqualify them from contracting marriage. And while the law contemplates that it shall do so, the fact is that persons who have been confined in insane asylums and treated for insanity have married and are under the statute not prohibited from marrying. All that is necessary is to have some irresponsible person make affidavit that he believes the contracting parties are of sound mind. The same applies to the idiotic. In fact,

THE DOORS ARE WIDE OPEN,

and whosoever comes to get married will be in no wise turned away. I am not acquainted with the marriage laws of other states, but in Iowa there is absolutely no check put upon the most degraded, the most vicious, the most abandoned drunkard, or the most loathsome syphilitic from propagating his kind. But the students of social science are awakening such an interest in this subject that the law-makers of our country will be compelled to devise some plan to protect society

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from this curse. A bill wss introduced at its last session info the legislature of Kentucky which prohibits marriage with an idiot, lunatic, pauper, vagrant, tramp, drunkard, gambler, felon or any person rendered physically helpless or unfit for the marriage relation, or any person with a violent temper, or who has within one year been a frequenter of any immoral house. The man who drew that bill was hewing to the line, irrespective of where the chips would fall. A bill of that kind could not pass. It is too sweeping in its provisions. But I believe a bill ought to be enacted into law prohibiting the following persons from marrying: The insane, the idiotic, the syphilitic, the drunkard, the criminally vicious and the pauper. I will not say the tuberculous should be prohibited by law from marryiug, but science has demonstrated that they ought not to marry. We are aware that affections of the nervous system very often show hereditary descent. But of all the neuroses,

INSANITY IS TRANSMITTED

the most frequently. It is estimated by authorities upon this subject that 75 per cent. is caused by heredity. Burrows says hereditary predisposition is the cause in six-sevenths of the cases. Moreau, in nine-tenths of the cases; Jacobi, in two hundred and twenty cases of mania found this the cause in one-ninth; Bergmann in one-third; Hagen in one hundred and eighty-seven cases found family disposition in one-third, direct hereditary disposition, father and mother mentally diseased, in one-seventh. Neither is it confined to any class, station or condition in life. Martini in Leubus had in twenty-five years amongst the higher ranks nearly one-third; amongst the middle and laboring classes somewhat over one-fourth, officially constituted hereditary cases. Esquirol found it in the poor more than one-fourth; in the rich about three-fifths. But other diseases and abnormal conditions may be transmitted where one or both of the contracting parties show or have shown traces of insanity. One member of the family may have epilepsy, another hysteria, another becomes a criminal, another a drunkard, and so on through the whole catalogue of neuroses.

The following case is a good illustration. There is now confined in the Cass county jail for murder, a young man whose mother was at one time insane. He has one sister in the insane asylum, another insane, who afterwards committed suicide, one brother in the penitentiary for stealing, another brother insane, and his father but a short time ago was adjudged insane. Here we have as the result of one marriage that should have never been allowed to occur, insanity, suicide, theft and murder. The entire family is not only unproductive, but dangerous to society and a continued burden upon the state. There is to-day confined in the

IOWA STATE INSTITUTIONS FOR THE INSANE

two thousand patients who cost the state $336,000 per year. The following are the opinions as to heredity as the exciting cause in these patients: Dr. Gilman, of Mt. Pleasant, says in a personal letter: "It is

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impossible to determine the per cent where there is a hereditary taint on account of the imperfect history which is given, and the prevarication of friends who always seek to hide such a cause and will frequently deny it when the family are very strongly tainted, but I have no doubt however, that some heredity exists in at least one-third of the cases admitted to our institutions." Dr. Hill, of Independence, also in a personal letter says: "About one-third of the patients are known to have insane relatives, and in a smaller proportion, about one-fourth, heredity is a well marked pre-disposition cause. Placing the per cent at twenty-five, we have to-day in our insane asylums five hundred persons who are there by virtue of a transmitted disease, costing the state $84,000 every year to take care of them. Had a law been enacted fifty years ago prohibiting the marriage of these people, what an amount of anxiety, suffering and misery would have been prevented, and what an enormous sum of money would have been saved the state. The relation of syphilis to marriage is one of the most important questions; and one that has recently received much attention. No one will now dispute the fact that the disease can be transmitted to the offspring by either father or mother. Probably two-thirds of the physicians present can remember cases in their own practice, where one of the contracting parties has diseased the other, or where syphilitic children have been born. How many times a laughing mouth reveals the

HORRIBLE SECRET

of a loving father or mother and exposes the family skeleton with all its suffering, misery and remorse! And oh! what remorse. How many would give all gladly, even life itself, to undo what had probably been done through ignorance. The physician who has not studied the literature of this subject, or has not had an extensive personal experience can not appreciate the enormity of the crime committed against humanity, and especially the ones who are most dear, by taking upon himself or herself the marriage vows while the system is contaminated with syphilis. By way of illustration I give a brief report of the following case in my own practice. In 1879 I had under treatment for secondary syphilis a bright, intelligent young business man. Before the mucus patches had all disappeared from his mouth, he asked my advice as to the advisabilty of his getting married. I of course told him not to consider the subject for a moment, not even for years. My advice was not heeded, for in a few months he married a very worthy young lady. In about a year a daughter was born who in a few months presented the unmistakable symptoms of inherited syphilis. The child lived to be about a year old and then died. But during its illness it was occasionally nursed by its mother's sister who had a child about the same age. This woman had a sore nipple and contracted the disease and gave it to her child, who after suffering more than a year was cured. This woman again became pregnant while being treated, and gave birth to a five months syphilitic child. The first woman again became pregnant

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and was delivered of a child which had hydrocephalus and is to-day an idiot. The husband and father, the cause of all this suffering, was not allowed to escape punishment for the crime he had committed, for in a few years he became a raving maniac, and is to-day the charge of one of our neighboring states. Here, as the result of one marriage, we have the death of two children, another an idiot, one in an insane asylum, and untold agony and suffering in at least two innocent women. Who dare say it would have been unjust or compromising of personal rights to have said to this man, so longs as you have the germs of the disease in your system, you are by law prohibited from marrying.

ALCOHOLISM.

We are to a great extent creatures of circumstances. We are educated, molded and fashioned by our environments. If a child is surrounded from his birth by vice or drunkenness, he will most likely become a drunkard or a criminal. But criminals and drunkards are born as well as made. The laws of heredity have demonstrated that if one or both parties are criminals or drunkards the chances are greatly in favor of the offspring having the same propensities. The progeny of this class of people are always on the descending scale of development, and the only way to stamp out this type is to stop their propagation by law. The late James C. Wilson, of Philadelphia, said: "A considerable proportion of individuals who suffer from alcoholism are found upon inquiry to come of parents who have been addicted to drink. A still greater number belong to families in which nervous disorders, and in particular neuralgia, epilepsy and insanity have prevailed." Anstie said: "The nervous enfeeblement produced in an ancestor by great excess in drink is reproduced in the various descendants with the effect of producing insanity in one, epilepsy in another, neuralgia in a third, alcoholic excesses in a fourth and so on." He also says: "The part which heredity plays in many of the inveterate and hopeless cases of alcoholism is wholly out of proportion to the obvious and easily recognizable part paid by momentary temptation."

CRIMINALITY.

But heredity plays as great a role in criminality as it does in alcoholism. There are families of murderers and thieves as well as families of musicians and poets. Dr. Aubry says: "In seeking for heredity in criminals and in thus calculating the possible relation between crime and neuroses, Bombroso and other authors have arrived at the conclusion that crime is often a malady." We find in the reports of the different penitentiaries that quite a large per cent of the criminals give histories showing that their parents or some near relatives have been convicted of crime. This has been beautifully demonstrated recently by an article written by "Nora Marks" in giving an exposition of the "Tribe of Ishmael," a family that located in Indianapolis in 1837, and whose genealogy was traced back to Bowling Green, Kentucky, in 1790.

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She found that there were 557 in the fourth generation and that almost without exception they were either criminals or paupers. This family, with a few exeeptions, intermarried, thereby increasing the degeneracy and demoralization. I have no doubt many gentlemen present have had like circumstances come under their observation. Had the State of Kentucky, one hundred years ago, confined Ishmael and his wife, who were criminals, and removed the children from their influence, educating them, but preventing their marrying, society would have been protected, besides the State would have saved thousands of dollars spent in prosecuting the four generations of criminals and caring for the paupers

A LAW PROPOSED.

The Habitual Criminal and Vagrant Acts upon the statute books of the different states have so far done little to stop the evil. The State ought to take charge of all children who inherit these tendencies, and while educating and trying to make good members of society of them, at the same time prevent them from marrying and thereby continuing their kind. A law ought to be enacted compelling every man and woman to present a certificate from some competent physician as to the physical fitness of that person for marriage before a license is granted; and it ought to be made a penal offense for any physician to grant such a certificate knowing the same to be false. At the same time the contracting party or parties knowing such certificates to be false, should be divorced as well as punished for their part in the crime against society and the State.

The Chair appointed as committee to act upon President's address, Drs. E. F. Clapp, D. W. Crouse, and J. A. Scroggs.

A paper by Dr. D. W. Smouse, entitled "A Report of Some Cases of Intubation," was read, discussed by Drs. Clapp, and E. H. King, and referred.

Dr. Elizabeth Hess, of Iowa City, read a paper on "The Diseases of the Thyroid Gland," which after being discussed by Drs. McCarthy, Cokenower, W. N. Greene, Kime, and Sill, was referred to the publication committee.

Owing to sickness in his family, Dr. W. Watson, of Dubuque, was absent and his paper on "The Good of the Order," was read by the Secretary, commented upon by Dr. Kennedy, received and referred.

Dr. Woods Hutchinson, of Des Moines, read a paper entitled "Nature's Thermo-Barometer." It was discussed by Drs. G. H. Hill, Kinnier, Hutchins, Hazen, C. S. Chase, Hobson, Kime, Jenkins, and Hutchinson, was referred.

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Dr. J. E. Sansom, of Tipton, presented "A Case of Peritonitis Resulting in Death," which was discussed by Drs. Biller, Charlton, King, Riley, and Twining, closed by the author, and referred to the committee.

The meeting then adjourned until 7:30 P. M.

FIRST DAY.—EVENING SESSION.

SURGICAL SECTION.

Meeting called to order at 7:30 by the President.

Dr. E. H. King, of West Liberty, read his paper upon "Contusions of the Abdomen," which after discussion by Drs. Hobson, Rawson, and Scofield, and closed by the author, was referred.

Dr. J. W. Cokenower presented his paper, "Orthopædic Surgery—Early Treatment," which was commented upon by Drs. King, Rawson, and Cokenower, and referred to the publication committee.

Dr. Donald Macrae presented the following:

Resolved, That we, the members of the Iowa State Medical Society in session assembled, request the members and delegates to the American Medical Association who will be present at Nashville to use their efforts to induce the Association to hold the next meeting at Omaha, Nebraska.

A letter upon the same topic was read by the Secretary, from the physicians of Omaha.

The resolution was adopted with unanimity.

The Society then went into caucus for the purpose of selecting a Nominating Committee, which resulted as follows:

COMMITTEE ON NOMINATIONS.

First District—J. A. Scroggs, Keokuk.
Second District—F. H. Little, Muscatine.
Third District—G. H. Hill, Independence.
Fourth District—S. B. Chase, Osage.
Fifth District—J. S. Love, Springville.
Sixth District—J. R. Gorrell, Newton.
Seventh District—D. W. Smouse, Des Moines.
Eighth District—F. M. Everett, Corydon.
Ninth District—F. W. Porterfield, Atlantic.
Tenth District—F. H. Cutler, Bancroft.
Eleventh District—J. G. Biller, Correctionville.

Upon motion the Society adjourned to 9 A. M. Thursday.

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SECOND DAY—MORNING SESSION.

Meeting called to order by President Emmert at 9:15 A. M. Being still in Section on Surgery the first paper was read by Dr. D. W. Finlayson on the subject, "The Surgical Anatamy of the Inguinal and Femoral Hernia." Referred without discussion.

The next paper read was a report by Dr. E. F. Clapp, of Iowa City, Chairman of the Section on Surgery.

On motion the paper was referred to the committe on publication.

Next followed a paper by Dr. John P. Savage, of Sioux City, on the subject entitled "The Present Method of Examining Pension Claimants; Its Advantages and Disadvantages, with Some Suggestions." Discussed by Drs. Getz, Dean and Sill, and referred.

On motion of Dr. G. F. Jenkins, Drs. Millard and Fuller, of St. Paul, were invited to address the Society.

Dr. Millard spoke as follows:

Mr. President:

We thank you very much for your courtesy. We are very much pleased, indeed, to meet so pleasant a body of gentlemen from so large and renowned a State, and for a State that is doing so much for civilization. I believe the majority of the medical profession, particularly in the last few months, has looked upon the temperance question in Iowa with considerable interest, and I believe the result of the struggle in Iowa has met the good wishes of a vast majority of the profession of Minnesota. In other words, I believe that a majority of the profession of Minnesota are friends of the temperance cause and of Iowa's civilization. I hope to see as many members of this Society present at our next meeting of the Minnesota State Medical Society as is possible to be present. I believe it is rarely that we have had the honor of a delegate from this Society. We are in adjoining States, and we would be very highly honored to see any of you at our next Association, which is held the third Thursday in June of this year at St. Paul. I can speak from experience when I state that I believe that the profession of Iowa are on a par with the profession of many of our adjoining States. The railway company

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with which I am connected has several hundred miles in this State, and I have a large board of surgeons, and I have come in contact with your men and I am very highly pleased. The only thing I regret is that there are not more men in Iowa that have the national reputation of Dr. Peck. There are many more men, I believe, that are just as competent and just as worthy of the national confidence of the profession of this country as Dr. Peck. All you want to do is to come out among us and make known your ability as medical men and as surgeons. I hope this State, in her different medical societies, will be represented at Nashville at the conference of medical colleges with the view of elevating the standard of medical education. This is a matter, gentlemen, that I personally am vitally interested in. I had the honor to be chairman of a committee of a medical convention last year that made the report on uniform medical education. I hope that every college in the state will be represented at that meeting at Nashville; I hope they will come there prepared to act with authority, and I hope that every college in the country will be represented, and that that meeting will not adjourn until a resolution has been unanimously adopted that hereafter in these United States no man will have graduated and received a diploma until he shall have attended at least three full courses of not less than six months' duration each. I believe, gentlemen, that this period of study is disgracefully short. I am a firm believer that the duration of medical education should not be less than four years of six months each. The college with which I am connected, and have the honor to be Dean, are to hold a special meeting to-morrow night with the view of extending the course of the University of Minnesota from three terms of six months each, to three terms of eight and a half months each. I believe the action of our faculty to-morrow night will unanimously extend our course of lectures, and I hope at the faculty meeting at Nashville that the preliminary clause of education as drafted by Dr. N. S. Davis, requiring a thorough education in English, and, at least, the knowledge of one of the foreign languages will prevail and be adopted at that meeting. Should this occur where you demand high education and demand three courses of instructions before graduating our boys, there is no question in my mind but that the step will be most important in the eyes of foreign countries, and it will be contributing very much in elevating the standard of medical education in the United States. [Applause.]

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By invitation Dr. Fuller, of St. Paul, addressed the Society.

Mr. President:

I rise simply to thank you, Mr. Chairman and gentlemen of the Society, for the courtesy extended to us. I have nothing to say except to endorse what Dr. Millard has said to you, as he is one of our most talkative men in the State of Minnesota, and we are always glad to have him with us to do our talking for us. I am simply waiting for the noon hour to meet the Pathologists of the Association, whom I expect to have the pleasure of meeting and talking with this afternoon.

Dr. S. B. Chase moved that the Nominating Committee be instructed to report at 2 o'clock this afternoon, which was carried.

Dr. W. F. Peck's paper on the subject of "Tubercular Pathology and Its Influence Upon Operations," was read by Dr. W. D. Middleton; discussed by Drs. Hobby, T. J. Maxwell, Jepson, and Sill, and closed by Dr. Peck. It was on motion referred to the committee on publication.

Dr. T. J. Maxwell, of Keokuk, next read his paper entitled "Double Tumor—Ovarian and Uterine Fibroid—Removed at One Operation," which on motion was received and referred without discussion.

Next following was "A Case of Syphilis, with Amputation of the Leg," by Dr. S. W. Clark, of Oskaloosa, which was referred after a few comments by Dr. Finlayson.

The next paper, "The Present Status of Hernia Operations", was read by Dr. J. W. Kime, of Fort Dodge. Drs. Clapp, King and Finlayson participated in the discussion upon this paper, after which it was referred.

The paper on "Abscess of the Liver, Containing Hydatid Cyst," a report of a recent case by Dr. D. W. Smouse, was, owing to lack of time, read by title and referred without discussion.

Adjournment was then had to 2 o'clock P. M.

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SECOND DAY—AFTERNOON SESSION.

Called to order at 2 o'clock by the President, when Dr. S. B. Chase, Chairman, read report of the Committee on Nominations.

REPORT.

Your Committe on Nominations beg leave to make the following report:

Place of meeting, Waterloo, third Wednesday in April, 1891.

For President, Dr. Wm. D. Middleton, of Davenport, and Dr. G. F. Jenkins, of Keokuk.

For First Vice President, Dr. J. D. McCleary, of Indinaola.

For Second Vice President, Dr. J. L. Whitley, of Osage.
For Secretary, Dr. C. F. Darnall, of West Union.
For Assistant Secretary, Dr. C. S. Chase, of Waterloo.
For Treasurer, Dr. G. R. Skinner, of Cedar Rapids.

COMMITTEE ON ARRANGEMENTS.

Dr. D. W. Crouse, Waterloo, Chairman.
Dr. S. N. Pierce, Cedar Falls.
Dr. G. H. Hill, Independence.
Dr. S. E. Robinson, West Union.
Dr. J. M. Ristine, Cedar Rapids.
Dr. C. S. Chase, Waterloo.

COMMITTEE ON PUBLICATION.

Present committee, composed of Dr. E. Hornbrook, Cherokee; Dr. J. F. Kennedy, Des Moines; Dr. W. D. Middleton, Davenport, was continued, with the Secretary and Treasurer as ex-officio members.

COMMITTEE ON ETHICS.

Dr. J. M. Emmert, Atlantic, Chairman.
Dr. George P. Hanawalt, Des Moinés.
Dr. J. Williamson, Ottumwa.
Dr. D. W. Crouse, Waterloo.
Dr. A. W. McClure, Mt. Pleasant.

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COMMITTEE ON NECROLOGY.

First District—Dr. George B. Little, Burlington.
Second District—Dr. A. A. Cooling, Wilton.
Third District—Dr. Wm. Watson, Dubuque.
Fourth District—Dr. Irving W. Smith, Charles City.
Fifth District—Dr. G. E. Crawford, Cedar Rapids.
Sixth District—Dr. E. W. Clark, Grinnell.
Seventh District—Dr. T. J. Caldwell, Adel.
Eighth District—Dr. W. H. Gibbon, Chariton.
Ninth District—Dr. C. M. Schindel, Cumberland.
Tenth District—Dr. F. H. Cutler, Bancroft.
Eleventh District—Dr. G. W. Beggs, Sioux City.

COMMITTEE ON REVISION OF CONSTITUTION.

Dr. C. M. Hobby, Iowa City, Chairman.
Dr. H. G. Ristine, Fort Dodge.
Dr. D. W. Smouse, Des Moines.

FOR TRUSTEES.

Dr. S. B. Chase, Osage, three years.
Dr. R. S. Rice, Smithland, three years.
Dr. J. R. Gorrell, Newton, two years.
Dr. F. M. Everett, Corydon, two years.

DELEGATES TO AMERICAN MEDICAL ASSOCIATION.

First District—P. F. Straub, Mt. Pleasant; G. F. Jenkins, J. A. Scroggs, Keokuk; H. A. Gilman, Mt. Pleasant.

Second District—E. H. King, West Liberty; E. F. Clapp, Iowa City; W. F. Peck, W. D. Middleton, Davenport.

Third District—D. M. Wick, New Hartford; C. C. Bradley, Manchester; M. I. Powers, Parkersburg; Benj. McCluer, Dubuque.

Fourth District—J. L. Whitley, Osage; J. W. Smith, Charles City; S. E. Robinson, West Union; H. Newell Sill, Strawberry Point.

Fifth District—J. W. Dalby, J. M. Ristine, Cedar Rapids; J. S. Love, Springville; C. C. Griffin, Vinton.

Sixth District—E. W. Clark, Grinnell; D. A. Hoffman, Oskaloosa; J. R. Gorrell, Newton.

Seventh District—D. S. Fairchild, Ames; R. A. Patchin, W. S. H. Matthews, Des Moines; T. J. Caldwell, Adel.

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Eighth District—E. M. Reynolds, Centerville; T. P. Stanton, Chariton; W. T. Blakely, Confidence.

Ninth District—F. M. Hiatt, Red Oak: H. W. Hart, Council Bluffs; John Riley, Exira; I. M. Harsh, Griswold.

Tenth District—A. L. Wright, Carroll; W. N. Green, Webster City; D. J. Townsend, Lohrville; C. I. Burt, Lake City.

Eleventh District—J. M. Knott, J. P. Savage, R. E. Conniff, Sioux City; R. L. Cleaves, E. Hornibrook, Cherokee.

S. B. CHASE, Chairman.

F. H. LITTLE, Secretary.

The report recommending two gentlemen for President, on motion the Society proceeded to ballot. Doctors Priestly and Young were appointed tellers. The result showed 76 votes for W. D. Middleton, 66 votes for George F. Jenkins, 1 blank, and the Chair stated result and announced election of Dr. Middleton as the next President of the Society. Dr. Jenkins in a happy speech moved the election be declared unanimous, which was so done.

Dr. Williamson offered an amendment substituting Ottumwa for Waterloo as the place of meeting. The claims of Council Bluffs were presented by Dr. D. Macrae, of Marshalltown by Dr. H. L. Getz, and all amendments were lost. In the Committee on Publication the name of Dr. George F. Jenkins was substituted for that of Dr. W. D. Middleton, after which the Secretary was instructed to cast the vote for the adoption of the balance of the report, which was so done, and the Committee discharged.

A printed communication from Dr. A. W. Cantwell, of Davenport, was read, asking co-operation of all medical men in securing, for the American Public Health Association, of which he is a member, of a special committee appointed for that purpose, all information concerning the cause and prevention of diphtheria. Any replies to the printed questions furnished by Dr. Cantwell, or suggestions bearing upon the subject, will gladly be received by him.

Dr. E. F. Clapp read the following report of the Committee appointed to consider the President's address.

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REPORT OF COMMITTEE ON PRESIDENT'S ADDRESS.

Your Committee to whom was referred the able address of the President would report that they most heartily commend both the matter and manner of the same. That the question of heredity is a subject of most thoughtful concern to the race in general, considered in all its aspects—physical, financial, moral and legal.

To the teaching of the medical profession the public must look for light and education upon this complicated problem.

The medical profession should be the sentinels in this movement and place the cause of heredity upon the highest ground, ready to follow wherever the facts may lead or on whatever they may impinge.

This address again brings the importance of healthy marriage unions, both of mind and body, forcibly to our notice.

The danger of perpetuating the diseases of insanity, epilepsy, syphilis, pauperism, inebriety, and increasing our criminal classes by permitting without restraint these classes to marry and intermarry cannot be over-estimated, thus burdening the State with their care and blighting the influence and happiness of thousands of homes throughout the land.

We as medical men should stop these sources of waste of life and usefulness by example and vote at every opportunity.

As a body the State Medical Society should give the subject of heredity careful and thoughtful consideration and action along the line indicated by the address of Dr. Emmert.

(Signed) ELMER F. CLAPP,
D. W. CROUSE,
J. A. SCROGGS.

Dr. T. J. Maxwell, from the Committee appointed on World's Fair, reported advising postponement of action until next year's session, which on motion was so done.

SECTION ON OPHTHALMOLOGY AND OTOLOGY.

Dr. H. B. Young, of Burlington, Chairman, read his report, which was accepted and referred. [This report was afterward lost while in Dr. Young's hands, and a copy could not be procured for publication.]

The next paper following was "Nervous Troubles from Eye Strain," by Dr. W. H. Kinnier, of Dubuque. It was dis-

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cussed by Dr. C. M. Hobby, Dr. J. F. Fulton of St. Paul, Minn., Dr. J. W. Kime, and by Dr. W. C. Pipino, who read interesting notes of a case of nocturnal incontinence of urine, the apparent result of errors of refraction. Discussion closed by the author and the paper referred.

The next paper on the program, entitled "The Ideal Operation for Cataract," was read by Dr. Pipino. Comments were made by Drs. Hobby, Kinnier, Crouse and Dalby, and referred after a few supplementary remarks by Dr. Pipino.

Dr. G. O. Morgridge not being present, his paper on the "Treatment of Trachoma," and Dr. Hazen's "The Sphenoid Sinus," were on motion referred to the Committee without reading.

The Committee on Ethics, through Dr. Macrae, presented the following report, which was adopted:

To THE IOWA STATE MEDICAL SOCIETY:

Your Committee on Ethics have to report that in yesterday's proceedings a delegate was reported upon favorably by the Committee of Arrangements and was duly elected a member of this Society.

It now appears that an inadvertance was committed; that said party, to-wit, P. H. Sharp, M. D., of Des Moines, is not ethically entitled to membership in this Society, the proof of which will appear in the accompanying circular; we therefore recommend that his name be erased from the records, and the admission fees returned.

D. MACRAE,
J. WILLIAMSON.

SECTION ON OBSTETRICS AND GYNAECOLOGY.

The Chairman of this section, Dr. B. H. Criley, being absent, it was taken charge of by Dr. Schooler. The first paper read was "Can Laceration of the Perinæum be Prevented in Labor?" by Dr. C. M. Drumeler, of Panora. It was discussed by Drs. Schooler, Hobson, Scroggs, Roberts of Osceola, Pinney and Ensign, and referred after discussion was closed by the author.

The next paper was by Dr. C. E. Ruth, of Muscatine, entitled "Removal of the Secundines in Abortion." Consider-

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able discussion was participated in by Drs. Emmert, Sill, Hutchins, Kime, Roberts, and closed by Dr. Ruth. It was referred to the usual committee.

The next paper was "Fibroids of Uterus," by Dr. D. W. Crouse, of Waterloo. After being commented upon by Drs. Skinner and Schooler, it was referred to the Committee on Publication.

Adjournment was then had for tea.

SECOND DAY.—EVENING SESSION.

Dr. Lewis Schooler read a paper entitled "Transfusion in Post-partum Hemorrhage," which was referred.

Dr. W. F. Graham, of Atlantic, presented "A Case of Eclampsia in the Third Month of Pregnancy," which was referred after discussion by Drs. Jenkins and Riley.

"Case of Tubal Pregnancy Treated by Electricity" was the title of a paper read by Dr. D. W. Smouse. Dr. Priestly commented at length upon it. Dr. Cleaves said she was a believer in electricity and if she had an opportunity she would use it—either the faradic or galvanic currents. She had had no experience in tubal pregnancy. The paper was accepted and referred as usual.

Dr. Macrae was given time to present the matter of journalizing the proceedings, and offered the following:

To the Iowa State Medical Society:

I will send each member of the Iowa State Medical Society a copy of the "Omaha Clinic" for one year, and during the year will print the proceedings of the Society from month to month, and when proceedings are finished will furnish the Secretary of the Society with five hundred (500) copies of entire proceedings, bound in black cloth, for five hundred dollars ($500).

H. J. PENFOLD,
Publisher "Omaha Clinic," Omaha, Neb.

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This provoked considerable discussion, and as a means of settling the matter, Dr. Skinner moved the offer be accepted. The following resolution was offered by Dr. Priestley as a substitute and was adopted:

Resolved, That the Committee on Publication have the power to contract with some journal to publish the proceedings of the association; *provided*, they deem such course advantageous to the success of the Society.

Next followed a paper by Dr. J. F. Kennedy entitled, "Food and Its Relation to Health," which was discussed by Drs. Everett and McClure and referred.

Adjournment was had until the next morning.

THIRD DAY—FRIDAY MORNING SESSION.

SECTION ON MATERIA MEDICA.

Dr. S. H. Stutsman, of Burlington, Chairman, read his report, which was received and referred.

The next paper was by Dr. Mary B. Tuttle, of Burlington, entitled, "Alcohol as a Therapeutic Agent," which was referred without discussion.

Dr. S. W. Moorehead presented a paper on "How Shall We Reduce High Temperature?" which was discussed by Dr. G. H. Hill and referred.

"The Physiological Action and Internal Medication of Carbolic Acid," was read by Dr. O. D. Benson, of Des Moines; discussed by Drs. McClure and Finlayson and referred.

Dr. Rosa Upson, of Marshalltown, read a paper on "Quinine, Opium and Iron; their Use and Abuse," which was referred.

A communication was read asking that delegates be appointed from this society to the convention for the revision of the Pharmacopœia, and Dr. Upson was so delegated.

Dr. Lewis Schooler presented the following resolution:

Resolved, That hereafter the Committee of Arrangements shall arrange the papers to be read at each annual meeting of the Society without reference to the sections to which they belong.

After a great deal of discussion it failed to pass.

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The report of the section on diseases of the mind and nervous system was read by Dr. I. P. Brubaker, the Chairman, and referred.

The paper on "Neurasthenia," by Dr. M. F. Riordan, was read by title and referred, as were also the papers of Drs. Ristine, Getz and Grossman.

Dr. Watson, of Dubuque, and Dr. Hornibrook, of Cherokee, both Chairmen of the Committee on Publication, being absent, the following report was read and accepted and the Committee discharged.

REPORT OF THE COMMITTEE ON PUBLICATION FOR 1888 AND 1889.

To the Iowa State Medical Society:

The undersigned, representing your Committee on Publication, would respectfully submit the following report:

As will be well remembered, at the date of our last meeting, Vol. VII of the transactions was in the hands of the printer and only one-half the press work had been done. After carefully canvassing the situation the new committee concluded it would be wise to add the proceedings of the thirty-seventh session to the volume in press. With a delay to the printer of not more than three days the four papers on Surgery were supplied and added in the proper place. The completed minutes were in hands of the committee in fifteen days, and all the material derived from the last meeting within twenty-five days of its close, the result of prompt and efficient action on the part of those charged with the duty, notwithstanding they were widely separated.

The publishers kept a regular force steadily at work. The first copy was received early in August. They were distributed as fast as received, and all places reached by express were supplied before Sept. 1st, and the scattering by Sept. 15. The committee sincerely regret the typographical errors, which are in part due to the efforts to avoid delaying the printers when they were earnestly pushing the work after the previous long delay.

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1889.		
Aug. 15—By draft from Treasurer for expenses	$100.00	
Sept. 6— " " " partial payment of printers	200 00	
Sept. 27—By draft from Treasurer to pay printers	500.00	
Oct. 29—By copy of Transactions sold	2.00	
	$802.00	
Sept. 6-27—Paid Palmer, Winall & Co. on contract		$700.00
" " P. W. & Co. binding extra copies and pntg 1,000 Con. and By-Laws		19.95
" " for wrapping paper and twine		1.05
" " packing and addressing books		6.00
" " U. S. Ex. Co. $26.02, (5 vol. returned .45)		26.47
" " Am. "		13.40
" " Adams "		7.48
" " Postage on 14 vols. sent by mail		2.38
" " " on letters, manuscripts, etc		1.66
" " Frt and drayage, books sent Secretary		1.41
Bal. cash on hand paid Treasurer		22.20
		$802.00

That the result shows the wisdom of the action of the committee a few figures will demonstrate. The Transactions were placed in the hands of the members in a permanent form in three and a half months after the close of the meeting. The result showed we had not as much material on hand previously as had been estimated, and that the volume would have been sixty pages less than the contract, reducing the cost $75. By their action 124 pages were added, placed in a permanent form at a cost of $200, one-half the estimated cost of journalizing.

Respectfully submitted,

DES MOINES, April 16, 1890.

WM. WATSON, Chairman of 1888–9,
EDW. HORNIBROOK, Chairman of 1889–90,
WM. D. MIDDLETON,
J. F. KENNEDY.

The time now having arrived for induction into office of the new President, Drs. Jenkins and McClure were asked by Dr. Emmert to bring Dr. Middleton forward, and introduced him as follows:

Mr. President:

I want to thank the Association for the kind and courteous way in which I have been seconded in the endeavor in my weak way to preside over this Association. I will now pass the gavel over to the hand of one who is far more able than I possibly could be; a gentleman who needs no introduction;

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who is the peer of any of our brethren in the State of Iowa; whose work in the Association has been probably as great and able as any member of the Association, and I know that the good of the Association will be advanced by his election and administration. I now introduce to you Dr. Middleton, your new President.

Dr. Middleton said, on taking the Chair:

Gentlemen:

I will detain you but a minute to say that I have always regarded the position of President, to which you have seen fit to call me, one of marked distinction; that I fully appreciate the honor you have conferred upon me, but I begin to see it also is one that is full of responsibility. That is, I would feel very uncomfortable without the confidence that I shall have your aid in the responsibilities to come, and with that aid I shall promise to do what I can to advance the interests of the Society. I suppose that one ought to always look upwards, but I am groveling enough to say if I succeed, or we together succeed in having as successful a meeting at Waterloo as we have just had I shall be highly gratified. Gentlemen, I am at your service.

The reports of the Treasurer and Secretary were read and referred to the Committee on Finance, who endorsed them, after which they were properly received and adopted.

TREASURER'S REPORT.

G. R. SKINNER, *Treasurer,*
In Account with Iowa State Medical Society:

	DR.	
To cash on hand as per last report	$1,327 52	
To cash from members during the year	347 00	
To cash from members at this meeting	395 00	
To cash received from 60 delegates	180 00	
To cash from Dr. Watson's balance left in hands after sending Transactions to members	20 20	
To cash Dr. Watson sale 1 copy Vol. 7 Transactions	2 00	
To cash from Dr. Schooler's rent of Exhibitors	60 00	
		$2,331 72

1889.	CR.
June 12, by Secretary's order No. 142	$ 6 25
Aug. 15, by Secretary's order No. 143	100 00
Sept. 5, by Secretary's order No. 144	200 00
Sept. 28, by Secretary's order No. 145	500 00

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1890.		
April 19, by Secretary's order No. 146	35 00	
" by Secretary's order No. 147	33 75	
" by Secretary's order No. 148	9 50	
" by Secretary's order No. 149	60 00	
" by Secretary's order No. 150	53 70	
" by Secretary's order No. 151	50 00	
" by Secretary's order No. 152	100 00	
" by Secretary's order No. 153	100 00	
		$1,248 20
By cash balance on hand		$1,083 52
		$2,331 72

G. R. SKINNER, *Treasurer.*

DES MOINES, IOWA, April 18, 1890.

THE IOWA STATE MEDICAL SOCIETY,

In Account with C. F. DARNALL, *Secretary.*

		DR.
1889.		
May 20, to postage	$ 50	
May 23, to telegram, Dr. Watson	25	
May 23, to stationery, printing, etc	6 25	
June 4, to expressage, Hornibrooke	35	
July 15, to postage	1 00	
July 30, to telephone, Palmer, Winall & Co	40	
July 30, to expressage, J. B. Hamilton	1 15	
Sept. 30, to postage	1 00	
Dec. 14, to printing receipts and labels	4 50	
1890.		
Jan. 15, to express, 26 vols	3 90	
Feb. 17, to postage	1 00	
Feb. 18, to note heads	3 00	
Feb. 28, to 200 blank credentials	2 00	
Feb. 28, to 1,500 envelopes	2 25	
March 8, to 1,250 announcements	10 50	
March 10, to postage	13 00	
March 10, to 500 slips	1 25	
April 16, to stationery and ink	1 15	
April 18, to trunk	6 50	
	$59 95	
June 10, 1889, by order	6 25	
		$53 70

IOWA STATE MEDICAL SOCIETY,

In Account with G. R. SKINNER, *Treasurer.*

To Cash Paid—	
1000 envelopes	$3 50
500 statements	2 50
500 receipts for delegates	1 50
500 receipts for members	1 50
Postage stamps	11 50
Stationery	75
Exchange	2 50
Clerk hire, making statements, etc	10 00
	$33 75

Paid, G. R. SKINNER.

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Bills were presented and allowed as follows:

L. Harbach, use of chairs	$ 7 50
J. H. McCord, use of chairs	1 50
Scheuerman Bros., hall rent	60 00
Journal Co., to printing	9 50
Dahlberg & Van Pelt, stenographers	35 00

NECROLOGY.

Reports were made from the First, Second and Third districts upon deaths of Dr. Thomas H. Cleaver, of Keokuk, Charles H. Lathrop, of Lyons, and Dr. D. T. Densmore, of Jamaica.

Dr. G. F. Jenkins introduced the following resolution, which was adopted unanimously:

Resolved, That the thanks of the Iowa State Medical Society be tendered all the newspapers of Des Moines for the very kind and generous manner in which they have treated and reported all our sessions; to the reporters for their faithfulness, and to the physicians of Des Moines for that attention and sacrifice of their time which they have given in looking after the details of our annual meetings.

The committees for next year were announced as follows:

Section on Surgery—J. B. Charlton, Clear Lake.

Section on Medicine—C. C. Griffin, Vinton.

Section on Obstetries and Gynæcology—J. F. McCarthy, Dubuque.

Section on Ophthalmology and Otology—F. E. Cruttenden, Des Moines.

Section on Materia Medica—S. W. Moorehead, Keokuk.

Section on Hygiene and State Medicine—A. W. Cantwell, Davenport.

Section on Diseases of the Mind and Nervous System—G. H. Hill, Independence.

Finance—O. J. Fullerton, D. Scofield and J. A. Scroggs.

There being no further business the Society adjourned *sine die* at 12:15.

C. F. Darnall, *Secretary*.

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PRACTICE OF MEDICINE.

DIABETES MELLITUS AND ITS TREATMENT.

By H. G. Ristine, A. M., M. D., of Ft. Dodge.

Read at Des Moines, April 17th, 1890.

This disease has been recognized almost as far back as the beginning of the Christian era, and there is probably no ailment to which flesh is heir, the existence of which has been so long known, in which so little is positively understood concerning its pathology as the subject under consideration.

The kidneys have been found changed in structure and altered in size and appearance; the liver hyperæmic and congested, atrophied and enlarged; the pancreas anæmic, filled with cancer cells, concretions and calculi; the lungs loaded with tuberculous deposit; the brain, medulla oblongata and spinal cord the seat of tumors and extravasated blood; the walls of the stomach and intestines thickened, eroded and ulcerated. Indeed, almost every organ from the crown of the head to the floor of the pelvis has been found diseased in diabetes, *and yet no constant lesion has been found in any one of them.*

It is not a rare disease in most of the civilized nations of the globe. It is more common among males than females, and middle aged, than the very old or the very young. It is said to be more frequent now than fifty years ago, but it may be from the fact that almost all life insurance companies demand that the urine be examined, thus, not infrequently, revealing cases that were not suspected either by the patient or his physician.

The exciting causes in its production are injuries to the head and liver, shocks to the nervous system, concussion of the whole body, anxiety, worry, mental strain, malarial and continued fevers, rheumatism, tumors at the base of the brain and in the spinal cord, lesions of the floor of the fourth ventricle, cold, wet, fatigue, sedentary life, over indulgence in

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food, especially that rich in saccharine material, or those articles which produce the same, while heredity in a large number of cases is said to be a prominent factor, though the immediate cause is often a problem difficult of solution. * * *

[A full descriptive history of the disease is here given with its dietetic treatment as recommended by standard authors.]

Next to diet, exercise is of great importance and should be taken as much as possible in the open air, and the amount must be regulated by the strength of the patient to bear it without exhaustion. So long as it is kept within proper bound it will prove beneficial; carried beyond this point it will be injurious. It may be taken by walking, riding, athletic sports, etc. By some (Richardson) walking is thought to be the best; that it not only increases the strength, but diminishes the thirst, and lessens the production of sugar, and this should be insisted upon, notwithstanding the languor of the patient, as the more it is with judgment indulged in, the less difficult will it be to perform, and it should be persisted in even in wet weather, but often this requires great moral courage, the feeling of languor and weakness is so great; however, if continued patiently and perseveringly, it will in time become more easy, and finally a pleasure.

Following close upon and a part of the same, are the medical aids. The materia medica has been almost exhausted in search of those remedies which will cure, or at least relieve in a measure this disease, a few of the more prominent of which will now be considered. Opium in some of its forms probably holds the first rank, especially the alkaloid codeia, which can be increased from a quarter of a grain given three times daily up to thirty or forty grains daily, unless the glycosuria is lessened or drowsiness is produced; and opium has been given in from sixty to ninety grains daily (MacGregor) often producing no other physiological effect than a contraction of the pupil, but unfortunately in most cases the good effect at first manifested is not lasting. Bartholow considers that arsenic holds the next place of importance, but he gives it combined with opium (3 drops Fowler's sol. to 10 drops tinct. opii), by others (Reynolds) it is recommended in from 3 to 30 drops; care, however, must be taken to not impair digestion.

The alkalies were first introduced by Willis, and have been recommended by almost all authors since in a variety of forms. By Mailhe they were supposed to accelerate the decomposition and combustion of sugar in the organism, but it is

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thought also to act beneficially in lessening the formation of sugar in the liver, though the exact manner of its action has not been demonstrated. Pavey recommends the use of carbonate of ammonia in from two to six drachms daily; soda and potash are also often given, which, if they loosen the bowels, can be replaced by lime water; on the other hand, should they constipate, magnesia can be substituted.

The mineral waters of several well-known springs in this country are highly advocated, such as the Saratoga Springs, New York, the Crab Orchard Springs of Kentucky, and the Bethesda Springs of Wisconsin. These are probably equal to the far-famed Carlsbad Springs of Germany, or the Vichy Springs of France.

There is often with this disease more or less anæmia demanding judicious administration of iron, with some of the bitter tonics, also, some form of pepsin to aid the usually impaired digestion. Lactic acid has been used (Cantani) with apparently good results in some instances, and cases have been reported cured by this agent. Cod liver oil is especially suited (Pepper) as an article of food when great debility is to be overcome. The bromides have proved useful in many cases, though the effect is not generally lasting. Pilocarpine has been suggested (Bartholow) to overcome the dryness and harshness of the skin. Jambul seed is the latest remedy. It is by some very highly recommended as reducing both the quantity of urine and sugar, though of its effects I have no personal knowledge. Strychnia, ergot, iodine, iodide potassium, iodoform, carbolic acid, the phosphates and many other remedies have been suggested, and no doubt have contributed to the relief of diabetics.

I now wish briefly to report a very interesting case that has recently been under my own professional observation.

I was called October 25th, 1889, to see Paul J. L———, a plump, healthy-looking child, aged three years and four months. Several years ago he lost a sister by diabetes; no other case in the family so far as I could learn. From his mother's description of the case and the amount of urine passed I at once suspected diabetes. On examination of the urine found the specific gravity 1.035, with a large amount of sugar by Haines' test. I at once put him on anti-diabetic diet, allowing him nothing containing either sugar or starch; also, gave him lacto-peptine to aid his digestion. Under this course of treatment for three weeks he seemed to improve, at the end of which time he was passing much less urine, on examining which there

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was not a trace of sugar to be found. Two weeks later I was informed that he was again passing large quantities. I then tested it and found it loaded with sugar, and could not but observe that the disease had returned with increased energy. I now gave him the elixir of lacto-phosphate of iron, lime and potash, at the same time keeping up the diet treatment. At this time I had him weighed and discovered that from thirty-eight pounds in two weeks he dropped to thirty-five, in two weeks more to thirty-two; after this his parents refused to have him weighed, but he failed in the same proportion for several weeks. There was from this time no improvement, or even a check in the course of the disease. I now gave him Clemens' bromide of arsenic, but its use had to be abandoned at once by reason of its bad effect on his digestion. I then resorted to a remedy lately largely advertised in medical journals, viz.: lithiated hydrangea (Lambert's), but with no better results. For almost three months he passed from fifteen to twenty-seven pints of urine every twenty-four hours, during which time his appetite was perfectly ravenous and his thirst excessive. I will here state that I now allowed him a mixed diet, as it appeared the case could not be made worse, and there was a constant desire for other food than he had for weeks been allowed. He had a constant childish fear of impending evil, and imagined he could hear persons talking outside of the house, especially after dark, and this continued throughout most of his sickness. His sleep was disturbed on account of his thirst and his frequent desire to evacuate his bladder; the bedclothes which were wet by him during his sleep when dried were stiff from the amount of sugar contained in the urine. There was irritation at the external meatus of the urethra on account of the saccharine urine passed. The bowels were very constipated during the last five or six weeks and did not respond to laxatives, and were only moved by enema often repeated. He was extremely restless and irritable; wanted to be removed from his bed to his hammock and back again; was exceedingly weak and easily fatigued. His mouth and tongue were very dry and his lips cracked; there was impaired vision without cataract being present. During the last week he ate and drank but little and passed but little urine comparatively, but much more than normal. The last few hours he panted for breath, coma developed rapidly and he was unconscious for eight hours, when death terminated the unequal contest. From the date when the disease was first noticed until its termination was just four and a half months.

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But the one thing that is truly anomalous in this case, and which, as far as I have been able to learn, has never been reported to have occurred, is the fact that *the patient passed in twenty-four hours urine equal in weight to that of his body.*

In conclusion, allow me to say that this disease has been recognized for ages; it possesses a mine of pathological wealth that has been but superficially developed; "that there are depths that have not been fathomed, heights that have not been scaled, dark recesses that have not been lighted;" and to-day in the sunset of the nineteenth century there is no field that presents to the thoughtful, earnest, pathological student a wider scope for investigation than the one just considered.

PERITONITIS WITHOUT FEVER OR PAIN.

By J. E. Sansom, Tipton.

Mr. R.———, a farmer 65 years old, was taken suddenly ill while at tea March 4th, 1890. Found the patient within an hour of the attack lying on his back on a sofa, legs flexed on body, pale, anxious countenance, lips blue, hands cold and blue, entire body bathed in cold perspiration, bowels distended and tympanitic, pulse barely perceptible at the wrist, temperature 95 deg. Far., and severe pain across the upper half of the abdomen. Patient had not had any injury. On examination of the abdomen nothing of importance was discovered except an inguinal hernia which was readily reduced, but would immediately reappear. Satisfying myself that it was not strangulated, and that it was omental in character, it was allowed to remain in the inguinal canal. To relieve the suffering, at half past eight I gave a hypodermic injection of sulphate of morphia and applied hot applications to the abdomen and extremities. The pain continuing, I again administered morphia hypodermically. At midnight the pain subsided; skin became dry and natural in temperature; pulse could be felt at the wrist, smaller in volume and more tense than natural; temperature natural; abdomen still distended with gas. An enema of about two quarts of water was given and retained; patient rested quite well until morning. About eight o'clock on the morning of the 5th another enema of water was given and was soon ejected unaccompanied by fecal matter or gas. At this time temperature was natural and patient did not complain of pain.

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Fearing that I had an obstruction of the bowels of some sort to deal with, and the violent symptoms having abated, I left the patient with the understanding that if I did not get word from him by three o'clock in the afternoon I would return with a rectal tube and endeavor to secure an evacuation of the bowels. Before three o'clock his son came to my office with the report that his father was better, and that it would not be necessary for me to see him again. March 6th, was called as I was visiting a patient near Mr. R——— to see Mr. R——— again. On entering the house found the patient lying on a bed conversing with a friend. He said he had no pain, "only an uneasiness in his bowels." Temperature was 99 Far.; bowels had not yet moved, distended and tympanitic. Patient, however, could lie on his side as well as on his back. Again I told him I would return after noon and use the rectal tube. At three o'clock March 6th the rectal tube was used, and soon a good, free action of the bowels followed, accompanied by a large discharge of gas. Patient felt very much relieved, and I thought the danger over. The following day, March 7th, his wife gave him a cathartic. March 9th was called in great haste; found the the patient in same condition as when first called, with this difference: he *had not any pain*, "only an uneasiness in the bowels," as he expressed it. The wrist was pulseless, cold surface covered with perspiration, vomiting, rapid respiration, temperature 95 deg. I administered hypodermically whiskey and digitalis; applied heat to the surface and extremities; gave directions to inject stimulants into the rectum. Saw him again in the afternoon; found him very much as when I left him in the morning. Believing the trouble to be obstruction of the bowels, I had him held with his face downward and injected water, but did not succeed in getting a passage. The case becoming very serious, I asked for counsel. Dr. H. C. Hunt, of Stanwood, was called, and after hearing the history of the case, and making an examination, remarked that an inflammation could not exist which would produce the existing conditions without a rise in temperature—the same view I had taken of the case. We again tried the rectal tube, but could not pass it beyond the sigmoid flexure, meeting an obstruction at that point. By this time the stomach would bear stimulants, and we gave them freely, but to no purpose. The pulse was only perceptible at the wrist; body cold and blue and covered with a sticky perspiration; no pain; temperature 95 deg. Far.; perfectly rational, and continued in this condition until two o'clock

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P. M. March 10th, when he died. The family desiring to know the cause of death, permitted a post-mortem examination, which was held four hours after death. Believing that only the organs in the abdominal cavity were involved, that cavity alone was examined. We first cut down upon the inguinal canal to determine the part the hernia had to play in the disease, and found the upper part of the canal filled with omentum, but not strangulated. The usual incisions were then made to expose the abdominal viscera. Seizing the walls of the cavity and beginning to pull them back, we were astonished at what met our view. Quite firm adhesions were found between the walls and viscera. The bowels were distended with gas and dark red in appearance, the blood vessels being full of blood. The interspaces between the folds of the intestines as they lay folded across the abdominal cavity were filled with organized lymph, forming adhesions between the folds of the intestines. There was not a particle of the peritoneum that was not involved in the inflammation. The pelvic cavity was filled with sero-purulent fluid. Tracing the intestines downward until the descending colon was reached, we began to find evidence of a former trouble. From six to eight inches above the sigmoid flexure and continuing to the upper portion of the rectum, the bowel was firmly adherent to the posterior and lateral wall of the abdomen, bound down by adhesions, the product of an inflammation that took place while the subject of our examination was confined in Andersonville prison. Judging from the appearance of the specimen I have with me, in the ancient inflammation, not only was there a local peritoneal inflammation, but the muscular walls of the intestine were involved, resulting in thickening of the walls of the intestine. As will be seen on examining the specimen, the constriction of the bowel was not continuous, but intermitted, forming pouches between the constricting bands. The constricted portion was not involved in the inflammatory action, only at its upper portion.

Summing up the evidence in the case before death, should we have suspected peritonitis?

We are taught by the books, as well as by experience, to expect severe and continuous pain and a temperature ranging from 102 to 104 in peritonitis. But believing the teaching that "there can be no extensive inflammation without a rise in temperature," we were unable to understand the other symptoms that were present in the case and are found in peritonitis. We had the expression of countenance, the distended and tympa-

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nitic abdomen, vomiting, and, when it could be felt, the hard, tense pulse of peritonitis; but pain after four hours from the invasion had ceased. The temperature never rose above 99 deg., and that only for a short time, during which the patient was apparently comfortable; dropped below normal and continued so until death. In fact, the patient appeared throughout the disease as one suffering from profound shock, collapse.

We have taken much consolation from what the autopsy revealed, although a disease was present that we did not suspect. Had we known the true condition any measures that might have been adopted would have been fruitless, as the inflammation doubtless had its origin in the constricted bowel.

In conclusion, I would say that, though contrary to past experience and the teaching of the books, it is possible to find peritonitis without a rise in temperature and with little or no pain.

DISCUSSION.

Dr. J. G. Biller—I think there is no greater fallacy at the present time than the fact that we cannot have inflammation without a rise in temperature. This idea was heretofore advanced that we did have inflammation without rise of temperature, before the society by Dr. Hornibrook in a paper which he read before this society. He gave a case upon which he performed laparotomy, and which had been suffering with peritonitis where the temperature was below normal. In a paper read by the same gentleman, Dr. Hornibrook, at the Missouri Valley Medical Society, he gave two or three cases in which there had been peritonitis with temperature either normal or subnormal all the time. I have had a little personal experience of the same effect. Two years ago I saw a boy about twelve years old; he was suffering with intense pain in the abdomen. There was some tympany and the pulse was rapid but normal. I was of the opinion that the bowels were obstructed, and used mild cathartics. The next the gentleman who was associated with me in the practice saw him and followed out the stimulant treatment and in two or three days afterwards, on returning from seeing the patient, he told me he thought he was going to die; he did finally die. The temperature had been normal or sub-

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normal. On opening the abdomen we found about the same condition that has been given in this paper. The bowels were matted together with an inflammatory adhesion; the peritoneum was discolored and the signs were present of terrible inflammation. Still we had all the time temperature normal or subnormal. About two months ago I treated a little girl about twelve years old for what I considered a mild attack of peritotonitis and never had temperature above normal at any time.

Dr. J. B. Charlton, of Clear Lake—Mr. President: This paper struck me with peculiar interest from the fact that it almost identically described six cases that occurred in my practice in a little town of twelve hundred inhabitants inside of six months; up to this time, at least, of the post-mortem examination, as he described it. The feature in those cases was that of shock as was described by the writer, and in the post-mortem examination that I made in these cases I found some of the evidence, as there had been before death, of peritonitis; not so extensive as described by the writer, but I went further in the examination and invaded the thoracic organs and there I found what I believed was a remarkable state of things and accounted for the conditions that puzzled the doctor. In my own cases the temperature never rose over 101 and 102, and in one or two cases the patient was not sick over three days and at no time during the sickness did he appear to be delirious, but was conscious all the way through and suffered very little pain; suffered pain in the abdomen for a few hours, but there was a remarkable feature in the circulation. It was very rapid though regular; showed an almost imperceptible pulse; appeared to be no pulse scarcely; more like a vibration pulse throughout under the finger. When I came to the heart, I found, even after that brief sickness of three days with low temperature, the heart filled with a tough, white fibrinous mass, extending into the large vessels that completely occluded the arteries in one case. And I made several post-mortem examinations since these cases in the little town of twelve hundred inhabitants, all occurring inside of six weeks. In one case this pulpy, white fibrinous

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matter puffed up the veins so as to dam up the blood in the lungs. I think in that case this was the immediate cause of death, but in all cases death comes from heart failure or from obstructions of the heart; and I firmly believe from the description that has been given, that if that heart would be examined here, it would be found to be filled with the same white fibrinous mass that I found in my cases.

Dr. King, of West Liberty—I wish to add my testimony to the statements made here, that we can have inflammation without rise of temperature. I have had a case of traumatic peritonitis where the temperature fell below normal and all the symptoms of collapse came on and we had intense pain involving the entire abdomen. One of the worst cases I have ever seen, had severe pain, commencing in the axilla, extending down the side and across abdomen, that finally terminated fatally; the temperature never was above normal; was subnormal, in a condition of collapse all the time; patient suffered no pain, but acute restlessness all the time; had symptoms of collapse. It is my experience in all these cases where you have this subnormal temperature and all the other symptoms of peritonitis, except that you have got a case of serious import.

Dr. John Riley, of Exira—Mr. President: I believe that if we would compare experiences we would find there have been a great many cases similar to this in the State. This winter I have had four cases myself since the first of January. One of them was rather peculiar. There was a German came to me a few days ago and said his little girl eight years old got a fright and he said, "In the old country we believe if a child gets a fright, their sides swell and their bowels stop acting and they die." This child stepped and got frightened; no question about that. The child fainted. They took the child to me and inside of twenty-four hours it had a low temperature. It lingered for fourteen days. It never had a passage of the bowels and I examined it carefully. I suspected intussusception and I examined it very carefully. I found no evidence of it. The bowels were soft and flaccid all the time. I used injections fre-

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quently, the water always coming back clear. There seemed to be complete paralysis, not only of the large intestine, but also of the small intestine; seemed to be no action at all and the child didn't care for food; it didn't eat anything; lived for two weeks without any food, without any fever, without any pain, and finally died from weakness; seemed to be a case of depression. And I thought this epidemic of influenza, which we have been having and which the child had had, had caused a condition of the nervous system which resulted in that way; and if I had not seen the other three cases—of course they differed some from that, there was similarity enough to lead me to believe that they were all effects of this epidemic of influenza that we have had. I believe that there has been a good deal of that sort of trouble over the State this winter, and if we would compare cases would find a similarity.

Dr. E. T. Twining—Mr. President: This paper opens up a large field. There is no doubt in my mind but that we can have peritonitis without a change in temperature either subnormal or above. There are two symptoms that are always present, or when they are present you can depend upon it that there will be trouble if that continue. One is this restlessness that the paper describes and the other is the vomiting. It is not, however, the retching or the ordinary vomiting; it is an eructation. The stomach discharges its contents with great force and without any effort upon the part of the patient. When that symptom exists and continues you will have trouble; that patient will die about the fifth day where bowel symptoms have presented themselves. Now it is remarkable the amount of adhesions and evidence of inflammation that will exist upon the following up of these symptoms either the result of gunshot injury of the bowels, or of the abdomen, or the result of peritonitis which is pretty well understood now to never result except from an injury. The cause of idiopathic peritonitis is considered to result from an injury. In all these cases the patients die ordinarily about the fifth day, and I have had the fortune, or misfortune, to have seen a number that have died

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from the result of gun-shot injury in the abdomen, and those patients died about the fourth or fifth day and those two symptoms were always present. Shock was a prominent symptom, but the two symptoms, this restlessness and uneasiness and vomiting, or eructation were always present in these cases of gun shot wounds. In each instance a post-mortem was held, and in every instance the bowels were firmly matted together by adhering peritoneum. There is no question but what we expect too many symptoms from peritonitis. No physician that has been in practice a number of years but will call to mind a case that has slipped through his fingers unexpectedly. In other words, he has not measured the symptoms and the patient has been in a worse condition than he suspected, and about the fifth day he died. Then he found his patient had been bad, and he could measure the symptoms and could understand the trouble, especially if he had the privilege of a post-mortem.

Dr. J. E. Sansom—Mr. President: Everything that has been said upon this subject recurs to this paper. I am surprised at the number of cases stated and reported. If I had had the opportunity to have read some of them I probably would have known better what to expect; but I confess it is the first one that ever came under my observation, and presenting the symptoms it did, I asked for a post-mortem examination that revealed the information I got. I think I have said in the paper all I have to say on the subject.

REPORT ON PRACTICE OF MEDICINE

By Dr. James T. Priestley, Des Moines.

The most brilliant thought developed during the year, has been the subcutaneous injection of testicular fluid.

Prof. Brown-Sequard read a communication at the Societie de Biologie of Paris, June 1st, 1880, which was published in the Comtes Rendies of that society on June 21st, 1889. He believes that the introduction into the economy of a liquid composed of three essential parts, semen, blood from the sper-

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matic veins, and juice extracted from a testicle crushed immediately after removal from the body of a dog, guinea pig, or other young healthy animal, is susceptible of increasing functional activities.

He has experimented upon himself, making a certain number of subcutaneous injections of a liquid thus prepared. The result was extraordinary. M. Brown-Sequard, who is seventy-two years of age, and who has suffered from an obstinate constipation, has seen this infirmity disappear; prolonged standing brings no fatigue; the evening labors are easily performed; in a word M. Brown-Sequard has rejuvenated himself thirty years. He suggests that a similar effect may be produced on females, with injections made with a solution prepared from the ovaries of certain animals. While this is a brilliant development to the medical world, particularly the subcutaneous injections, yet the same idea has prevailed throughout most of the ancient nations, and literature teems with various decoctions made from the same liquid. Even among the North American Indians the same principal was long ago known, they requiring as a test of bravery, and to give him more strength and courage, that the young brave, desiring to become a warrior, eat the testicles uncooked of a buck, the feat being witnessed by a number of assembled warriors. This plan of treatment by M. Brown-Sequard has been practiced by many competent observers with very varying success, the bulk of the testimony going to prove that it is a useless and dangerous treatment. The most thorough and exhaustive article upon this subject that has come under my observation is by G. Archie Stockwell, of Detroit, published in The Therapeutic Gazette of December, 1889, and January 1890, entitled Historical, Critical, and Scientific aspect of Brown-Sequard's discovery of the so called Elixir. I do not think any one can read that able article without being impressed with the idea that the veteran physiologist has formulated a great truth which will bear close investigation, and the ridicule which has been heaped upon him will react into much deserved praise for his discovery. Stockwell experimented upon animals with the active principal of the testicular liquid, namely: "spermine" and generally with muriate of spermine, which is much more soluble, a physiological alkaloid looking not unlike muriate of cocaine. His experiments prove it to have a very decided action not unlike strychnia. It has most marked stimulant and tonic effects which last for a varying length in different subjects. The injections

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of the spermine is devoid of the dangers of septicaemia, which made the use of the testicular fluid so often fatal and which more than any one other factor brought disrepute upon the experiments that were instituted to try the effects of this principal upon the human subjects.

SCARLET FEVER.

A new and apparently good treatment for scarlet fever has been advanced by Dr. J. C. Wilson of Philadelphia, whose name carries much weight with any subject suggested by him, namely the treatment of this disease with chloral hydrate. The doctor claims to have treated all his cases, which included epidemic and sporadic cases, during the past seven years with this drug. In conclusion of his very able paper in the Medical News, December 12, 1889 he affirms the following propositions:

1st. The treatment of scarlet fever by chloral hydrate, without the use of other drugs, has yielded satisfactory results.

2d. The chief role of chloral hydrate in the treatment of scarlet fever is that of a sedative to the cerebral centers. It appears to antagonize certain existing tonic principles formed within the organism during the course of the disease.

3d. Chloral hydrate is also useful on account of its antiseptic properties; (a) upon the throat; (b) upon the kidneys; (c) to a large extent upon the fluid of the organism at large. It is necessary in this connection to bear in mind the difference between the germicide and the antiseptic influences of drugs. No amount of chloral hydrate, compatible with the maintenance of life, can act within the organism as a germicide. It is assumed that medicinal doses may tend to render the fluids of the body antiseptic, that is to say, may tend to impair, to some extent, their fitness as a culture media for pathogenic bacteria.

4th. The elimination of chloral hydrate by the kidneys and its diuretic effect renders it especially useful in the treatment of scarlet fever.

The Doctor's plan is as follows:—As soon as the patient is suspected or known to be developing scarlet fever, a laxative dose of calomel, proportionate to the age and general condition, is administered. Shortly thereafter chloral hydrate is given in moderate doses at intervals of two or three hours or longer, throughout the attack. The dose varies with the age of the child; the frequency of its administration depends largely upon its effect. To infants of two or three years, a dose of from

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one to two grains may be given, the doses being gradually increased with older children, that of adolescent reaching four grains. The tranquilizing and sleep producing effect of the drug are in most instances promptly realized, the patient falling into a condition of quietude; a condition from which they may be easily aroused and into which they quickly relapse if undisturbed. It is neither necessary or desirable to push the drug to the establishment of deeper sleep; profound narcotism is of course to be avoided. The patient may thus be kept in a condition of light repose throughout the whole duration of the fever. By this means not only is there obtained relief from the restlessness and distress, but much wear and tear of the nervous system, and some exhaustion from muscular efforts are prevented. Delirium is controlled; the itching and burning of the skin, due to the eruption, are allayed; in a word, the greater number of the distressing symptoms of the disease are favorably influenced by the cautious and prolonged administration of chloral hydrate in efficient doses. The acid taste of the drug is the best masked by the administration in Aubergiers Syrup of Lactucarium, diluted thus:

Chloral hydrate grs. xxx.
Syrup Lactucarium, (Aubergiers.)
Aquam aa oz iss.

Misce. Sig—Teaspoonful in iced water every two or three hours for child three years of age.

Nourishment is administered immediately after giving the drug. The throat and nose should be sprayed with Seiler's antiseptic wash from the commencement of the attack. Inunction with freshly washed lard is also used. During convalescence, quinia, nux vomica and iron are used.

ALBUMINURIA.

The importance of albumin in the urine has been attracting considerable of attention during the past year, and many able articles have been written on this very important topic. Dr. George Johnson during a discussion on the prognosis of albumin in the urine, at the last annual meeting of the British Medical Association said, from the result of numerous and careful observations, he was convinced that no albumin existed in normal urine, in other words, that albuminuria was always pathological. The most delicate and entirely trustworthy test for minute quantities of albumin is a saturated solution of picric acid, with the subsequent application of heat. Any op-

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alescence resulting from the addition of picric acid which is increased and not dissolved by heat, is certainly albumin, except the very rare case of an immediate separation of uric acid in sufficient amount to render the mixture cloudy. In such cases the crystal of uric acid may be seen with the microscope. Picric acid causes no opalescence in normal urine. It does not precipitate mucin, as has sometimes been asserted; but when combined with acetic or citric acid, the mucin which is precipitated by either of these acids is rendered more conspicuous by the yellow picric acid. The test for albumin which in delicacy comes nearest to picric acid is nitric acid at the bottom of a column of cold urine. Those practitioners who are in the habit of boiling the urine before adding nitric acid must often fail to detect a trace of the albumin which might readily be detected by nitric acid in the cold urine, a slight trace of the albumin is apt to be decomposed by the addition of nitric acid to the boiling urine. A comparison of the nitric acid and picric acid tests may most satisfactorily be made by gradually diluting a specimen of albuminous urine. At a certain age of dilution it will be found that while picric acid gives an instantaneous opalescence, the nitric acid test forms an opalescence at the junction of the two liquids only after some minutes. Then, in urine further diluted, the picric acid with the subsequent application of heat gives a decided indication of albumin which the most careful testing with nitric acid fails to show. He had so often compared these two tests that he can now tell at once whether a trace albumin, which is clearly shown with the picric acid, is so small that nitric acid either fails to indicate it or it does so only doubtfully after the mixed liquid has been allowed to stand for some minutes. Another important use of picric acid is in estimating the amount of albumin by Esbache's simple but accurate quantities process.

After discussing at length the opinion of various writers upon the subject of the prognosis of albumin, he draws the following conclusions:

1st. The presence of albumin in the urine, though small in amount and occasionally intermittent, is always pathological.

2d. The practice of testing the urine in all cases of ailment, even the most trivial (the importance of which he has for many years insisted upon), has led to the detection of albuminuria in many youths and adolescents, who are especially liable to be exposed to the commonest of its existing causes;

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namely: cold and wet and over fatigue, and who have not lived long enough for the ultimate evil results of a neglected albuminuria to have become developed.

3d. The albuminuria whether intermittent or persistent of persons apparently in good health, has no special features as to require it to be designated by such misleading terms as "physiological", "functional", "cyclical" and the "albuminuria of adolescents." The last term is especially inappropriate since the condition is of most common occurrence in both sexes and at all periods of life, from childhood to old age.

4th. In almost every instance these cases of albuminuria may, by a careful inquiry, be traced back to some recognized exciting cause.

5th. Nearly all causes of acute nephritis pass through the stage of intermittent albuminuria in their progress toward convalescence; and on the other hand, the majority of cases of intermittent albuminuria may be traced back to a more or less remote attack of acute nephritis.

6th. While on the one hand intermittent albuminuria (even though it may have existed for years) may be looked upon as a curable condition if only its exciting cause can be ascertained, avoided and counteracted by suitable dietetic, medical and hygenic means. On the other hand, the neglect of such means may convert an intermittent into a persistent albuminuria, although for many years it may be unattended by symtoms of disordered health, ultimately results in a fatal degeneration of the kidneys.

7th. Since it is notorious that albumin, even in a very large amount may exist in the urine of persons who are apparenly in perfect health it is obvious that the urine of every patient, no matter how apparently trivial his ailment, and the urine of every applicant for life insurance, no matter how robust his appearance, should be tested for albumin.

8th. For many years past the fact that albumin may be abundantly present at one period of the twenty-four hours, and entirely absent at another has been publicly demonstrated and ought to be generally known. It is therefore necessary to test the urine, not only after rest in bed and before breakfast, but also after food and exercise.

DIPHTHERIA.

The treatment of Diphtheria has not undergone much change during the past year. The bulk of the profession use

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the solution of the bichloride of mercury as a gargle, spray, and internally. It is used as a spray or gargle in one thousand or two thousand. When the nasal cavities are involved the solution should either be used with an atomizer or a syringe, the fluid forced if possible through into the throat. I have seen large glandular swelling of the neck melt like ice in a warm room after the nostrils are made patulous so that the solution can be thrown through into the neck. Whisky, iron and quinia internally are the standard and accepted remedies. In laryngeal diphtheria the bichloride of mercury should be vigorously pushed. I am certain I have seen lives saved by using heroic doses of this drug, say the one-twelfth (1-12) of a grain every four hours in a child of three years of age. Intubation has not saved any cases for me, but my experience is limited to six cases. The treatment of Goucher has been revived, which consists of cutting away the membrane and cauterizing the surface with pure carbolic acid. The results recorded have been wonderfully successful, but the operation is so brutal and painful that it can never be adopted in private practice. Peroxide of hydrogen has had many advocates who report much benefit from its use; turpentine internally has been claimed to act extremely well, and is certainly worthy of more extended trial. The digestives, such as Papoid, Trypsine, and Pancreatine, have all been used and have their enthusiastic supporters; the latest aspirant being a compound of sulphur, calcium, pancreatine, eucalyptus, benzo-boracic acid and wintergreen, which is made by Carnrick, and designated by the euphonious title of Sulpho-Calcium Compound, did me very good service in a series of twelve cases, one a most serious case of nasal diphtheria, in which I almost despaired of getting the nostrils patulous. After using a spray of this mixture for thirty-six hours, I succeeded in dissolving enough of the membrane to allow the spray to pass into the throat, and in forty-eight hours more the nostrils were clean. None of this series died. The combination is one of the vilest smelling nostrums I have ever used for any purpose, but does not cause nausea or vomiting. It has been proven that potassium chlorate, once so much used in this disease, should be used most sparingly on account of its deleterious effect upon the renal organs. Absolute rest in bed during and after all cases of diphtheria should be strenously insisted upon. It is impossible to tell which cases are going to be followed by weakening of the heart muscles. How frequent are the cases which have apparently recovered to be followed

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by a very sudden and unexpected death. To forestall these terrible events we should order their recumbent position in bed for several weeks after all cases of diphtheria.

ENTERIC FEVER.

The treatment of enteric or typhoid fever has reacted back from the vigorous treatment with the new antipyretics, antipyrine, acetanilid, antifebrin and phenacetine which were so freely used a year or two ago. There is a disposition on the part of many to fall back on the expectant and hydropathic treatment so ably advocated by Brand. The treatment that has yielded the best results in my hands is as follows: Simple citrate of potash as a febrifuge, careful regulation of food, milk being in all cases the food, given at a stated hour, the patient's capacity of assimilation being the guide to the quantity. Whenever diarrhœa was troublesome the amount of milk was diminished. I have found that milk, or any food given in excess of the digestive capacity will cause diarrhœa. I have rarely found it necessary to use any astringents when this point was carefully watched. The temperature was looked upon only as a *symptom*, not as the disease, as is so frequently done in this fever. When the temperature reached 103½ or over, the patient was put into a full bath at the temperature of 100 and gradually cooled down to 85 F., the duration of the bath not exceeding fifteen minutes. When a bath tub could not be procured, the patient was enveloped in a sheet wrung out of water, the water being cooled down to the temperature of the bath, namely 85. In vigorous patients, I had them sit in a chair and water poured over them from a bucket. I have found the use of water far safer and much more satisfactory than the use of any of the antipyretics. With the dry brown tongue turpentine emulsion was used. Hemorrhage was controlled with ice and acetate of lead, and in one case saline transfusion was successfully performed. Whiskey was used after the second week, generally combined with the milk. Sleep was procured by the use of sulphonal, which acted well and kindly in all the cases when its use was indicated. In one case of typhoid mania it worked like a charm with morphia, where morphia, chloral, and a combination of these two had failed to do any good.

In four cases of wild delirium the delirium was thoroughly quieted with cold bath alone. When the depression was great, musk in ten grain doses was freely used with good results. The mortality in ninety-three cases under this treatment was

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five deaths. To prevent the propagation of the disease, the dejecta was thrown into a barrel, the bottom of which was covered about eight inches with sand and clay, the lower three inches being clay, the upper five inches sand. Dry sand was thrown over each passage, the barrel being covered to prevent water getting ito it. When the case was over, the barrel was either taken to the crematory and burned, or else disposed of by burning at the home of the patient, care being taken to see that the fire was sufficiently vigorous to thoroughly burn up all the contents of the barrel. By this simple means all danger of water becoming impregnated by the dejecta is done away with. In over a hundred cases of enteric fever seen in this city, not one case was develvoped in persons using hydrant water exclusively, all the cases being persons who used well water partially or exclusively.

A bacteriological question of most practical importance has been advanced by the researches of Rodet and Roux, made public in the *Comptes Rendus Hebdomadaires des Seances de la Societe de Biologie*, Feb. 21, 1890. Whether an organism may be benign in one locality and malignant in another, or to state it differently, whether the property of infection is an adventitious one, depending upon the soil in which the organism grows or inherent in its substance. An attempt to solve this problem in so far as relates to the typhoid bacillus has been made by these authors whose researches have led them to conclude that the bacillus of Eberth is nothing more than a modification of the bacillus coli communis. The fact upon which they base this opinion is of two kinds. In the first place they made cultures of the blood, of the spleen and of the fæcal matters of two typhoid patients and found that the former produced nothing but the bacillus of Eberth, and the latter little else than the bacillus coli communis, the bacillus of Esherich. The typhoid bacillus of Eberth is, according to these experiments, the bacillus coli in a state of degeneration. This is shown by the fact that the former is less able to resist heat than the latter, Eberth's bacillus being destroyed by a temperature of 80, which is supported by the bacilli coli. This is far from saying that the bacillus which causes enteric fever is in a state of degeneration at the time of infection. The bacillus coli becomes virulent without any notable change in its appearance and other characteristics, and it is the interior of the organism, especially in the spleen, that it assumes the features of Eberth's bacillus. The latter are the results of the destructive forces of the body.

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The practical conclusions from the researches are twofold: 1st. Water contaminated with fæcal matter not necessarily typhoidal may give rise to enteric fever. 2d. The tolerance of the organism for the bacillus coli shows that the latter acquires its virulent features outside of the body.

"In the midst of life we are in death." Alas, we mourn for another bacteriological idol destroyed by the remorseless hand of critical research! Talamon in "*La Medicine Moderne*" March 6, 1890, makes the assertion, which is corroborated by others, that he can produce the hæmatozoon malaria from all red blood corpuscles by the application of heat. When we know that heat is a part of the technique of all observers who have found the malaria producing germ, we cannot help feeling a pang of sorrow at the early death of our lively friend who was so vigorous and healthy a few days ago.

It has been generally understood that the internal administration of that prince of germicides, corrosive sublimate, in certain forms of intestinal diseases when antiseptic treatment is demanded, would be productive of no benefit, as the doses needed to produce sufficient effect as an antiseptic, would be lethal. This is undoubtedly true of its administration by the mouth, but not true as regards its administration per rectum. G. Lemoine (*Bulletine general de Therapeutique*, January, 1890,) shows that the use of it as an enemata in dysentery is productive of much good without producing any deleterious effect. This observer reports the use of it in fifty-four cases of dysentery treated in Algiers with the best of results. The strength of the solution used was one in five thousand, of which six ounces were administered by enemata three times a day in acute dysentery; later a solution of one in three thousand was injected twice a day, the quantity being the same as of the first solution. Rapid improvement manifested itself after the first injection, the tormina and tenesmus disappearing first. In a number of cases the tenesmus was so great as to require painting the sphincter with five per cent solution of cocaine before using the injection pipe. The acute cases were cured in two or three days, while a number of the chronic cases that presented themselves for treatment on account of acute exacerbations were cured in a single day. This statement is all the more interesting when we are informed that the cases were all of a severe type. In no case was there any sign of mercurial poisoning.

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DISCUSSION.

DR. S. B. CHASE—I do not wish to discuss the paper at all, but I wish to thank the gentleman most cordially for the ability that he has put into that paper. I have felt for years that this has not been done properly. We do not as a general thing, I am sorry to say, give that attention to the papers which we ought that are read before the society. That is certainly not so in the Doctor's case. That is a very able paper.

DR. SILL:—I listened with a great deal of earnestness and desire to hear Dr. Priestly's opinion on the use of Salol. I appreciated that portion of the paper very much and in case he had used the Salol, I would like to have known his experience. I think it is one of the grandest auxillaries I ever used in enteric fevers and the best to control diarrhoea. It is better than any other agent I know of. I have got grand good work from the use of it in enteric fevers. I speak of it as an antisceptic in enteric fever.

IMPORTANCE OF ACCURACY IN DIAGNOSING AND AIDS TO SAME.

By H. L. GETZ, M. D., Marshalltown.

The intelligent members of a community employ as a class, the physician in whom they have most confidence. This confidence is not frequently implicit and of the highest order for they more than entrust their fortunes; they entrust their lives.

The physician who is not therefore a careful and thorough diagnostician becomes at once a dangerous individual to the patient; this danger lies not *so* much in *prescribing* the contra-indicated remedy, as in making the wrong diagnosis, for the former *may not* kill, while an error in the latter may be the cause of death through want of having prescribed the *proper* remedy.

Failure to obtain the effects which *certain* remedies are known to produce *positively*, in the hands of careful and accurate diagnosticians uniformly, so, is and should be taken as proof positive that there is an error in diagnosis and not as is

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often done ascribe the unsatisfactory results to the short-comings of the remedy administered, or perhaps, to some peculiar makeup or type of the individual, *but* to the mistaken diagnosis.

There are two classes among physicians who belong to the inaccurate. One of these classes is found in the physician (so-called) who, if opportunity has ever presented did not avail himself of clinical and hospital advantages, practical teaching by thorough and very competent men. The other is found among those who *have* availed themselves of *all* and excellent opportunity which may have presented under the *most* skilled instructors in clinic, hospital and perhaps private practice.

The latter one of these classes is therefore if careless and indifferent in making a diagnosis, guilty of a far greater wrong than he who has never had opportunity to properly qualify himself and therefore *cannot* do if he were ever so willing. Many people would love to play and sing as a *veritable* artist does. They may touch the same instrument or use a similar if not an identical vocal apparatus and yet produce no music but instead only harshness, discord and cause to the listener a feeling of agony intense, instead of pleasure and harmony and all this because there has been no practice, no cultivation and gradual and certain improvement, and this condition exists either because there is no love for the work, or if there had been, no opportunity to gratify presented. Practically, however, no difference exists; so far as relates to the patient's welfare it matters little which or *what* the cause of inability may be. To succeed means a feeling and desire to do all things pertaining to the making of a diagnosis with as much precision and thoroughness as does the *artist* violinist when he draws his bow which produces the strains most sweet and delicate, or as does the *artist* painter apply with care and practiced eye the lights, shades and tints on the most beautiful picture. To make a diagnosis in a serious case with a feeling of indifference and unconcern as to correctness of conclusion, must require a conscience *most* cold and hardened—yea, wretched in the extreme. To win in the practice of medicine by legitimate and fair means and to maintain in a community for years a reputation enviable means ability and reliability in making correct diagnosis.

Much has, during recent years, been said in regard to preliminary and higher medical education; this is good, but unless the course of medical instruction be materially changed there

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will be little difference in the abilities of the higher medical education doctors and the doctors of the present day so far as pertains to ability to diagnose correctly. What we want and need is more practical, more actual bed-side experience and drill under acknowledged, practical and competent direction to fit for correct diagnosing and the student who shows no faculty for this kind of work or if he or she be manifestly and persisently indifferent, should at once have refunded his matriculation and tuition fee, sent out of the institution and be at once black listed as N. G.; and all reputable medical colleges be promptly notified—thus saving perhaps many a life that now perishes in consequence of the doctors *now* and *to be* in practice who are made of the stuff, herein recommend to be black listed for the benefit of the public welfare.

Indifference or inability in making diagnosis correctly means surely sooner or later woe to the patient and in the end a bad reputation for the so-called doctor.

In this day of advancement in the science of medicine, there certainly can be no excuse for the flagrant errors in diagnosis as discovered and encountered by the physician of even ordinary observation as he is brought to face them in consultation or as he is called to see a patient who may have been for weeks under treatment of another physician; perhaps one who does not know the difference between the meaning of the words diagnosis and prognosis or prescribe and proscribe, and under whose treatment the patient was exceedingly lucky to escape with his life in spite of the treatment and the prescribing for a disease which did not at all exist.

During the recent epidemic of the disease called la grippe, or more Americanized "grip" for short, more errors in diagnosis were made than during any similar epidemic of disease which has ever prevailed in a like degree in our country. This is in a measure accounted for by the fact that the public in general were determined to have the "fad" and suffering so much more severely (as they mainly fancied) than they had ever done before, although they had in fact nothing more than a catarrhal fever, such as we have had some cases of annually during the period of sixteen years of my residence in Iowa. The patient even who comes so frequently with "I think my liver is out of order" forgot his usual complaint all because he wanted the "fad." I recall at this moment several cases which I was called to see in consultation which will show some of the errors in diagnosing of which thousands occured,

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no doubt all over the country. One of these cases was an unmistakable one of typhoid fever; the patient, a woman, had been ill for about two weeks and as I arrived at the residence I was informed by her husband that the patient was better than she had been a matter of 24 or 36 hours previous, and that a consultation was thought not necessary. (I had been sent to see his wife by his relatives). After examining the case carefully, I informed him of his wife's serious illness and stated to him also that if his wife had been any worse than she was just at that hour, that she certainly must have been *very, very* ill; that I considered chances very much against recovery; that she would probably not live 48 hours (she lived about 36 hours). The attending physician reported the death as caused by grippe and typhoid fever, clinging to his original diagnosis with an astonishing death like "grip."

So also did I witness cases of acute nephritis, of pneumonia, of rheumatism—acute, inflammatory and muscular. Deaths from causes which had previously to 1890 been recognized in their simplicity as occurring frequently were not now to be discovered in the announcement of deaths and causes given for the same—all had with a striking uniformity either a prefix or a suffix of grip. There can be no doubt then, but that many deaths resulted from pneumonia, etc., simply, which might have been avoided had not the grip craze carried away many physicians so far as their better judgment was concerned, not recognizing the real nature of the disease until death became apparent or when it was too late to treat the difficulty which *really* and *in fact* existed *primarily* and all the time until the patient succumbed—for want of correct diagnosis and consequent proper treatment.

The aids of most importance at hand and which should be made use of more especially in acute diseases are, first a good clinical thermometer; this when properly used having no tongue, could not lie even if it would. Physicians who can ignore at this day the use of the clinical thermometer should, if the patient perish, be prosecuted for malpractice. The urinometer, microscope, chemical analysis, sphygmograph, etc., etc., are all of such vast importance in making accurate diagnosis, that to believe that physicians could get along without at least most of them, seems incredible; and yet, perhaps, *many* do so, and *many*, perhaps, are the lives lost in consequence.

Much good would undoubtedly result and much would be accomplished in bringing the general public to realize that the

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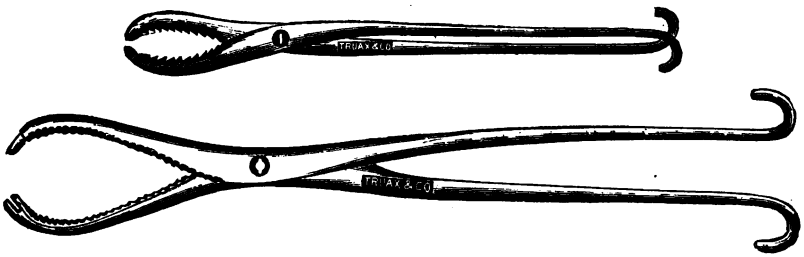
practice of medicine as it *should* be, and *is*, when properly done, *is* a matter of *science* and *certainty*, and *not* an affair of *uncertainties*.

All such then, in the profession, who would do well for themselves, and likewise well for their patients, do not forget that the making of the *correct* diagnosis is the *one* thing of importance; this well done, and the application of the proper remedy is a matter easily accomplished, and success in the great majority of cases is *sure* to follow. *Never* prescribe unless you are *very* certain you have diagnosed correctly. If you cannot do this, be honest enough to send the patient elsewhere.

REMOVAL OF THE SECUNDINES IN ABORTION.

By Dr. C. E. Ruth, Muscatine.



Leaving out all the finer distinctions between miscarriage and abortion with their prevention, we come at once to the consideration of those conditions which may confront us as a result of the placenta or membranes being retained, wholly or in part, after the fœtus has been expelled prior to the sixth month, when the uterus is too small to admit of the hand being introduced for the purpose of their removal.

Could the physician introduce his hand and do the work, not one in ten would hesitate to at once remove a possible source of danger to his patient. The question to decide is, is there any danger from placental retention and if there is, which is unquestioned, then is their removal necessarily a dangerous procedure, and if it is dangerous is it equal to the danger from placental retention? Scarcely any physician would now think of waiting for hours, days or weeks for the delivery of a placenta which is retained after expulsion of the fœtus at or near term, but with clean hands removes it carefully without

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injury to the mother, believing that the placenta has performed its function, which is equally true in abortion cases and its longer retention can only be a constant menace to the woman's health or life, and the physician's peace of mind.

There would seem to be no question that the finger would be the best instrument to detach and deliver an adherent placenta, if it could be made to reach, which, unfortunately, it can seldom do with all the pressure backward and downward one feels justified in making through the abdominal walls to bring the uterus within reach per vaginum. The curette is a time honored instrument for the purpose under consideration, and when the finger can not reach, it is better than nothing to clear the uterine cavity at once, or when driven to it by threatened septic trouble or recurring and severe hemorrhage. The principal objection to the dull curette or in fact any curette is that one never is sure when he has finished the work he set out to accomplish, and the physician finds himself compelled to return to attempt completion of the work he hoped he had finished to avoid the danger to his patient which first prompted him to undertake the work and be obliged to admit the inefficiency of his appliance or skill and fail in part to give his patient the protection she sought at his hands. The cavity of the uterus being almost a sphere in the early months of pregnancy, a placenta forcep should be made to conform itself to that shape if it is to be of use in detaching an adherent placenta, and one which is not adherent can be removed by nature or a common dressing forceps. So that a placental forceps to be of real worth must be a *placental detacher* and must be so constructed that it can be brought in contact with every part of the cavity of the uterus with speed, and certainly from which a placenta can grow without danger of injury to its walls. Its expansion must take place almost or wholly within the uterine cavity or the os will interfere with the spreading of the blades of the instrument. They must possess strength sufficient to do the work and for scraping purposes alone should not have a cutting edge, so that there be no necessity for lacerating the dense uterine tissues with any reasonable force. After having been frequently annoyed by the inefficiency of our methods I conceived the idea of having an instrument constructed to fulfill the requirements of what I conceived to be an ideal instrument as nearly as possible and had Chas. Truax & Co., of Chicago, make it for me, a cut of which is appended, with that of a much smaller instrument for use in uteri, which are but slightly, if at all, enlarged, but

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where there is considered to exist the necessity for investigating the interior of the uterus for curetting purposes and the removal of polypi. It is better used at once if the placenta is retained, yet I have introduced it and removed a placenta en-masse that had been retained seven weeks after the fœtus was expelled and without dilatation of the cervix or the necessity of administering an anaesthetic. In recent cases it is frequently advisable to administer a small amount of chloroform or ether, for, when a foreign body is introduced within the uterine cavity and brought firmly in contact with its walls, contractions come on with great force, as all can testify who have removed an adherent placenta by the introduction of the hand, and the pain may be considerable if the contractions are strong. The fundus should be depressed backward and the entire uterus carried downward and backward by pressure of the hand above the pubes to bring the axes of the uterine and vaginal canals in as nearly a straight line as possible. The hand of an assistant may be used to make pressure above the pubes and leave both hands of the operator free. After the blades are introduced they should be separated till resisted by the uterine walls, against which they should be kept firmly pressed while they are rotated till a complete revolution has been made, when they should be introduced still farther, and rotated as before and again introduced, and rotated till the entire cavity is reached, when the jaws of the instrument must be closed and rotated in the same direction while being withdrawn, to lessen the liability of any of the decidua or membranes being separated from the placenta. Any other forceps with which I am acquainted is not so shaped as to fit the uterine cavity when expanded and it is impossible to reach all parts of the cavity with them in any number of positions for scraping or other purposes. They all have their lock at too great a distance from the tips of the blades, and as they are expanded, begin immediately to put tension on the os without reaching any but a small part of the uterine walls if the uterus is markedly enlarged.

The instrument I present I have been using for more than a year and in a large number of cases. I have never failed to remove a placenta completely at a single sitting, so that there was no necessity for re-introducing the instrument at any other time to complete the work. No unfavorable symptoms have developed as a result of its use. All the patients recovered promptly even in cases where the placenta had been retained for weeks, and the woman already suffering from septic trouble.

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In cases where putrid placentae were removed I always irrigate the cavity of the uterus afterward with an antiseptic solution. In only two cases have I used the smaller instrument and in one of these the patient had retained the placenta three weeks, did not take an aesthetic, and resisted even the slightest examination. In this case the amount retained was not large and the cavity of the uterus was small. In the other case I scraped the interior of the uterus for menorrhagia due to a villous condition of the mucus membrane with marked retroversion. The work was done entirely satisfactorily in each case and recovery was prompt. In the case of menorrhagia there has been no hemorrhage since.

The small instrument is made with square angles on the jaws for scraping purposes when rotated to the right, and rounded more on the other angle which would come in contact with the walls for scraping purposes if rotated to the left. The instruments are fastened together with antiseptic locks and they can be separated and perfectly cleaned. In towns where criminal abortion is as common as it is in ours, the successful removal of the secundines becomes a very important matter.

Many more women would die than do but for sending for their regular medical attendant when they become seriously sick after having an abortion committed by some one incapable of removing the secundines, but who receive a large amount of their income from arresting pregnancy, and causing premature expulsion of the ovum, wholly or in part. They are, however, nearly all regularly authorized practitioners of medicine and surgery in the state of Iowa.

DISCUSSION.

Dr. J M. Emmert—Mr. President: Some way our brethren have been very modest in the discussion of the papers of this Association, the one way for another. This is too important a subject for us to pass over without any discussion. I am very glad that the doctor has presented this paper, from the fact that as general practitioners we are meeting these cases every day. And if we handled them in the knowledge we were educated to handle them, fifteen or twenty years ago, the chances are we would lose a large per cent. of our cases. I don't think I have lost a case from abortion in the last ten years. During that time my method has been to empty the uterus and

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irrigate it, to wash out the uterus and make it aseptic. The amount of harm that can be done with a very small amount, or very small piece of secudine being retained is wonderful; it does not take a piece of membrane larger than your thumb nail to produce death; it is the center point of death; it soon becomes infected. The septic matter is soon absorbed, and in the course of a few days very unexpectedly you have got a case of septicæmia upon your hands, which you know results in death very frequently. Now, I don't believe that we ought always to be satisfied when we have what we suppose the entire contents of the uterus in our hands and we see them in the vessel or in the bed; but I believe we ought either to take our curettes or our fingers and go up and explore the cavity of that uterus. If you do not do that you will certainly irrigate the uterus and keep the parts disinfected. There is one thing that the doctor has not mentioned, and I am glad he has not, although it might have been better from the fact of impressing it firmly upon the mind of the profession again, and that is the old idea that ergot should be used in these cases of abortion. There is not any question in my mind but that ergot in former years was the cause of many a poor woman's death. The doctor, when he found that he had a retained product of conception in the uterus after death—foreign bodies—he immediately went to work giving ergot for the purpose of expelling it, and in the place of expelling it he simply brought the uterus down and brought about a tetanoid contraction of the uterus and firmly held it there. He was allowed to sleep probably with the idea that the uterus was empty; allowed his patient to go until he was awakened from his sleep of either stupidity or ignorance with a fully developed case of septicæmia followed by the death of his patient. Now, I don't believe that ergot has any place at all in the treatment of these cases; in fact, I am a firm believer that ergot has very little place in the treatment of obstetrical practice of any kind. I think the day has passed for the use of ergot in obstetrics, or in cases of this kind. Now, the doctor said considerable about the placenta forceps. I have

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never had success in removing secundines, or the product of conception with placenta forceps. The best plan is for you to give your patient chloroform, pass your hand into the vagina, pressing the uterus down from above, and passing your finger in and knowing that there is nothing there. If it is there, you have got the best placenta forceps in the world—that is the end of your finger, and you know just exactly what you are doing; that is the best way to remove these foreign bodies. Of course, it is nothing but a foreign body after the child's death. Another way I have done sometimes, and have been very successful, and, by the way, I was called in consultation with a physician a few weeks ago where they had retained placenta and used this procedure. That is simply to bend your uterine probe. You can pass it up behind the mass and draw it down much more rapidly and much more cleanly; that is, removing more of it much more easily than you can with forceps. I have done it many times. I don't think I have failed a single time. I say I am glad that the doctor has brought this paper before us, because we cannot too often be reminded of our duty in these cases.

Dr. Sill—Mr. President: I am glad to hear the remarks that have just been made. I think that the best forceps known to us is a clean hand. If there is any part of my professional life which offers me comfort it is that of my aseptic practice. I wish to say, not egotistically, but with a great deal of comfort, that I never left a dead woman in confinement of my own case. Early in life I learned its excellence in abortion. I would like to tell a little story, but I guess I won't; it came by accident, Mr. President. We had a most excellent physician by the name of Arnold, in the city of Dunkirk, New York, where I was practicing, and perhaps some of our older brethren will remember that he advocated the theory of giving acetate of lead in teaspoonful doses in cases of abortion. Whether any of you saw it or not, he did. His argument was that the acetate of lead was a sure preventive of hemorrhage on the ground of the therapeutic action of the acetate of lead. I the-

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orized upon the thing a little and I made up my mind it was a little dangerous. He said it might be well to have ipecac, or some emetic close at hand, so if they threw it up he could give them another dose. There was a lady confined and hemorrhage ensued. She had much faith in a candle that was kept in the bureau drawer and she called one of the nurses to hand her a sperm candle that was in the bureau drawer. She took that candle and went titillating the fauces; immediately she gagged and vomited and the whole contents were expelled. Three subsequent cases where involuntary vomiting ensued in my own practice I found that the contents of the uterus were entirely expelled. When I graduated I wrote my thesis on emetics in uterine hemorrhages. I can see no object whatever in leaving the placenta retained. I never was detained to exceed an hour; I don't see any reason why we should be. I came very near being convinced about three months ago—should have been had I believed the doctor's statement—that it would not be dangerous though to leave one. In a neighboring town they sent for a physician to come and see a lady and he found that there was an intra-uterine tumor, and he operated and removed part of a placenta that had been retained over seven years, so he told me. If that is a fact it is not dangerous to leave her; but I could not endorse it, so I have not changed my practice any. But I do believe in a clear head and a clean hand. Do your work promptly and intelligently and save your patient.

Dr. Hutchins, Hampton—Mr. President: I was pleased with the presentation of this subject by the gentleman who gave us the paper. It is certainly one of the most important branches of our profession. The fact that abortions are so astonishingly frequent, makes it necessary that we be able to manage them intelligently, and the closing remarks, or nearly the closing remarks of the gentleman's paper led me to reflect upon the facts before us as physicians. It is known by all of you that criminal abortion is astonishingly common. And if I heard right, the gentleman said that even abortions were produced

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in most instances by the regular profession of the state. Perhaps I misunderstood it. However, in some instances I have no doubt but that they are, and we medical men are the only men who can expose this sinful practice and be a benefit to our fellow man in that regard. The fact that abortion is so common is becoming one of great importance; and the further fact is that abortion is most common in the best society and among the most intelligent people of our nation. The ignorant who raise children do not practice abortion to any great extent. The negroes of the south in twenty-five years doubled their population; the white people have increased 23 per cent. The foreign population who come here—the ignorant foreigners—are not addicted to these practices and they are increasing in wonderful proportion to our better class, and it is only a matter of time when the balance of political power will rest with them, if for no other reason than that they raise children while the better educated people do not. I think if we would do our full duty we would have a section in our next meeting of the medical society to consider criminal abortion within the state of Iowa. This may be a little out of the regular order, but I think that it is really deserving of some attention from the physicians in this society.

Dr. Kime—Mr. President:—For some reason the laity has undoubtedly formed the idea that we are licensed murderers. I don't know how that idea has gotten abroad, but, judging from my own experience, it is certainly very prevalent. From all classes of society come frequent applications to my office to produce abortion. I will say that I do not doubt that it is not less than twenty-five in number a year, and I believe it is higher. Why it is that they come to me I don't know. I suppose it is because they go to every physician—probably go the rounds. But from the fact that there are but very few of these women and girls that go on to full term and are delivered of a healthy child it must be that the abortion is produced somewhere; whether it is done by the profession, or whether it is done by themselves, or by other women I don't know, but it is

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a thing that is alarmingly prevalent in our society to-day, and it is something that should be considered by the profession. I don't know what we can do; I don't know that we can do anything.

Dr. Roberts—Mr. President:—While this subject is under discussion I wish to say that there is nothing I dread very much worse than I do a nasty stinking placenta. I was consulted in a case about three months. A gentleman has spoken here about using the finger. I have often resorted to that means and I prefer that when I can, and I have found cases in my time when I could not begin to remove the placenta. The finger was too short to get above it and bring it down. Since I have kept forceps I have been called in by other physicians who had a finger an inch longer than mine who could not reach above it. I have been called upon as I say since I had a set of forceps for that purpose and I have found that in the miscarriages, or abortions of three months, sometimes the uterus was just as rigid as it was in natural gestation, and I have had great difficulty in getting hold of and removing the placenta under any circumstances; and the difficulty has been sometimes to get an instrument to get hold of that placenta. Now, the instrument shown by the gentleman, which I saw as it was passed through the room, the trouble I would find with that is its largeness. You take a uterus three months only and the embryo is small; of course the cervix and os would naturally be small, and the moment that embryo is out the uterus becomes small again. I don't see how you would get that inserted. But here is an instrument that I think is all right; one that I have used a great many times myself to help other physicians out with. The reason I like that is this: When I get my finger up into that narrow neck of the uterus I can put that in a very small place. I can, perhaps, just reach the placenta with my finger; when I get at the placenta I gradually and easily turn that until I get it sufficiently large and then I can carry it up gently and easily and clinch that as hard as I please with no danger of hurting the walls of the uterus. I then

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gradually work it away; not quickly because there is danger of breaking something if you work too fast; but I take it and draw it easily and draw it away. As I say, I have used that instrument where I could not use the finger, which I always do in preference to anything else, and as I have said I have been called in by men who had a much longer finger than myself. In cases where you cannot get them away with the finger I prefer that to anything I have ever seen. [Dr. Roberts exhibited a pair of placenta forceps.]

Dr. Ruth—Mr. President:—In regard to the use of the finger I have said I believed it was the best instrument in any case where it could be used. A clean hand—a clean finger is the best instrument in any case, because it carries with it more intelligence than any instrument of any construction whatever. The man who uses the finger, or his hands, sees what is at the end of the finger, but I have got probably as long a finger as any man here and I started in with this idea of removing the placenta with the finger because I believed it was the best, and I have worked for, not a few minutes, but for hours until I was completely exhausted, attempting to deliver a placenta that I could just almost but not quite reach and I could separate it sometimes around the lower edge and get it perhaps half way through the remaining or interesting part. Beyond that I could not reach, and with a curette I scraped and scraped and scraped and never knew when I was done.

In regard to criminal abortions, they have made me more trouble I believe than anything else, but the men who make them are not, as the gentleman thought I said, regular practitioners; that is, they were doctors who are mostly eclectics and homeopathists. We do have a few though that do that kind of work.

Now in regard to this instrument that the doctor presented I have only this to say: You can grasp a small amount with that; you can reach a small amount of the uterine walls at a time; you can introduce it in as small a space nearly as the finger. Here is a lock away back here; tension begins to be

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made immediately at the os and you can get the blades only so far; and besides that the uterine cavity is almost perfectly globular in the early months of pregnancy and he contracts the instrument here with a light touch and on the back wall you get heavy enough grasp that you keep it down and the instrument is kept in contact with the wall on the front part. It is more difficult laterally and with that you don't know when you are done. Where you can use the finger I would say do it, but my experience is that I can detach a placenta en masse and not remove it in a great many pieces. Its blades are separate. The doctor spoke about its being too broad down here where it is introduced. It is a little broad, but you can introduce it in a reasonable case every time without much difficulty if the uterine axis is reduced enough to make it and the vaginal axis nearly straight, and I have introduced it as late as the seventh week after an abortion had occurred and placenta retained and removed it without anaesthetics.

ALCOHOL AS A THERAPEUTIC AGENT.

DR. MARY B. TUTTLE, Burlington.

Small doses, not too frequently repeated, increase the digestive power, by stimulating the flow of blood to the stomach, thus increasing the amount of stomach-juices; large doses impair digestion by precipitating the pepsin. By continuous use the too frequently stimulated glands undergo changes—a gastric catarrh is established. Under mild stimulation the amount of gastric juice was simply increased, but abnormal stimulation brings about pathological changes in the secretion. Here we have the exhibition of the well-known law of long-continued determination of blood to a part, setting up an irritation of the connective tissue, which undergoes hyperplasia. The proper secreting structure is encroached upon and undergoes atrophy, then we have contraction of the newly formed connective tissue and still greater changes in the gastric-juice.

Alcohol powerfully affects the heart and brain. The effect upon the heart is, in all probability, due to direct action upon the cardiac ganglia, rather thana remote action upon the complex nerve supply. That the cerebral cells are also influenced is unquestionable, but in just what manner has not been defin-

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itely determined. It may be a direct effect upon the cerebral cells, or simply a determination of blood to the part, or both combined. We know that the functional activity of the brain is in direct proportion to the blood supply, hence the determination of blood to a part, without the capacity to make use of it, or the capacity to attract more blood without the determination to the part, would have but little effect. If the stimulation be considerable, a condition of intoxication is produced. If the abnormal condition of excitement in the brain, induced by this stimulant, has been kept up almost without intermission for a length of time, or when it is suddenly withdrawn, after the organ has been long subjected to it, the disturbance brought about by it is so great and persistent, as to result in a complete overthrow of the reasoning faculties, and the condition known as delirium tremens ensues.

Medium doses are therefore servicable as real stimulants in cases where it is desirable to excite the cerebral and circulatory system to greater activity. We must not forget, however, that while exciting this increased activity, such doses do not elevate the temperature of the body; on the contrary where the effect can be measured, it is found that they depress it a little. By continuing to exhibit such doses we can sometimes (in erysipelas, puerperal peritonitis and similar diseases) lower febrile heat by alcohol where even quinine proves ineffectual. The consequences of this decline of fever heat are an immediate restoration to consciousness, if delirium or stupor has been present, and in any case a general improvement in the feeling of the patient.

As fever patients can tolerate large quantities of alcohol, without showing any signs of intoxication, it is allowable, and often necessary, to rise in the scale of doses beyond the limits ordinarily prescribed.

In the Journal of the American Medical Association of March 22d of this year, Dr. Martin, of Berlin, reports his experience with alcohol in the treatment of eighteen cases of puerperal fever. The amount of alcohol administered was enormous; thus one of the patients took in six weeks, seventeen bottles of cognac, thirty bottles of burgundy, thirty-seven half bottles of champagne, four and a half bottles of other heavy wines, and six bottles of porter. At no time was there any alcoholic intoxication observable. In some cases in connection with the alcohol other measures were employed, such as the removal of the decomposed decidua, irrigation, and permanent

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drainage. In the treatment of the fever the usual antipyretics were given, as Dr. Martin does not think this is influenced by alcohol, but seeks to sustain the heart's action, and an increase in the patient's power of resistance against infection.

In typhoid fever the question of stimulants is frequently an important one. In a large proportion of cases no alcohol is necessary from first to last; it is scarcely ever required in the early stages of the disease, except, perhaps, in drunkards, and at no period should it be given as a routine practice, or merely because the case is one of fever, but only to meet certain definite indications. These are mainly evidences of weakness of the heart, frequent weak and fluttering pulse, and weakness or absence of the first sound of the heart. When, as is usually the case, the tongue is also dry and the teeth and lips are covered, and the mouth lined with sores, the indications for the use of stimulants are unmistakable. The effect should be watched. When alcohol does good the pulse becomes less frequent, and of better strength and volume, and the temperature is usually lowered. An important indication also is that the odor of the spirits is not detected on the breath. When very high temperature and other unfavorable prognostic symptoms set in very early, stimulants may be given without waiting for the conditions above mentioned. Alcohol is again often required as an adjunct to the treatment of fever by the cold bath. The safest form of stimulants is brandy and whisky. The quantity needed will vary greatly in different cases; in some two or three ounces in the twenty-four hours will be sufficient; in others ten or twelve may be required. It should be given in divided doses, in or immediately after the milk or beef tea.

Diphtheria patients emaciate rapidly, and together with, as well as before the loss of flesh, extreme prostration occurs. Under such circumstances the liberal exhibition of alcoholic stimulants becomes a necessity as the principal, and when food is refused, as the only means of supporting life during the most critical period of the disease. This great crisis is not generally prolonged for more than a few days, but stimulants may be required to be more or less relied upon for a long time.

Smith in his work on diseases of children, reports a case of diphtheria where the patient took daily a bottle and a half of the wine of Bordeaux without the least symptom of intoxication or headache; another where the patient took nearly a bottle of brandy in less than twenty-four hours, without any ill effect and an apparent good result on the course of the disease.

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Dr. Smith thinks the same rule holds good in diphtheria, as in other acute infectious diseases; that while mild cases do well without alcoholic stimulants, they are required in cases of a severe type, and should be administered in large and frequent doses whenever pallor and loss of appetite or of strength and flesh indicate danger from the diphtheritic or septic infection. It matters little how the stimulant is administered, whether in milk punch, wine, whey or otherwise, provided that the proper quantity is employed. If given early and frequently in grave cases, as, for example, one teaspoonful every half hour of brandy or whisky, it does seem to have a tendency to render the disease more tractable. But to be instrumental in saving life in malignant cases, it must be given boldly from the start.

In the majority of the cases of pneumonia there is not the slightest necessity for the use of alcoholic stimulants, but in the graver cases I believe it to be imperatively demanded. The chief cause of danger is the failure of cardiac power, and consequently all symptoms of such failure must be carefully watched for. Brandy is perhaps the best preparation, and it should be given in large and frequent doses until the heart begins to respond. In the treatment of failure of cardiac power, however, it is important to attempt to modify as far as possible those conditions upon which such failure principally depends. The most important of these conditions is the pyrexia. Alcohol in itself has no effect whatever upon the course of the disease; it simply parleys with the enemy until nature brings all her reserve force to meet the shock of the battle, hence it should be given in full doses, before the crisis, and for a few days following.

"Alcohol in some form is constantly prescribed in low conditions, in fever, acute inflammations, depressing maladies of all kinds. It is serviceable in these diseases when it lessens the pulse rate, but increases the contractile power of the heart and elevates arterial tension. It does harm when the pulse becomes more rapid and the blood pressure is lowered by it. It does good when the tongue, before dry, becomes moistened under its use, and harm when the dryness of the tongue is increased. It does good when the temperature is reduced, the delirium and subsultus lessened, and the sleep becomes more continuous and refreshing; and does harm when it increases fever, exaggerates the delirium, and induces coma vigil. The chief utility of alcohol in these forms of disease is not as a stimulant, but as a food. It furnishes material easily oxidizable,

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which can be applied as nervous, muscular, and gland force. Furthermore it stimulates digestion and enables more food to be taken and disposed of, and thus contributes indirectly to the maintenance of the power of life."

The different forms of alcoholic liquors must not be used indiscriminately in these varying conditions, for their operations upon the system differ considerably and there are certain conditions of the body to which each is especially appropriate. Thus, distilled spirit is the most rapid and powerful in its action upon the heart and nervous system; and hence it is the most potent form of alcoholic liquors in those states of alarming depression from which we desire to arouse the patient as rapidly as possible. We find too, that it is frequently requisite to administer spirits to patients who have been in the habit of free or excessive indulgence in alcoholic liquors, under circumstances in which wine would otherwise be preferable; the milder stimulants, in such cases, not producing the effect we desire. When, however, we desire to give more continued support with less stimulation, it is not usually desirable to administer distilled spirits, and wine will be found the preferable form. This is especially the case in the advanced stage of fever and in convalescences from acute diseases. On the other hand, where we desire to give still greater support with as little stimulation as possible, malt liquor may be more advantageously employed.

The proper combination of alcohol with food and tonics, as the convalescence proceeds, is a matter involving thought in each individual case. The greater care and watchfulness should be used in their administration, both to avoid doing positive harm by an overdose and also to avoid bringing the system into a habit of dependence upon them. There is no doubt that a course of over-indulgence in alcoholic liquors has occasionally commenced with the therapeutic use of them, and it is extremely desirable, therefore, that the medical attendant should enforce the diminution of the dose, and the final discontinuance of the remedy at the earliest possible period. Very often the necessity for the administration of alcohol, except at meals, becomes abolished. In early convalescence a glass of wine and a biscuit during the intervals of meals, may be very proper and be clearly indicated, but as the digestive power becomes restored and a larger bulk can be assimilated at one time, irregular meals become less necessary, and if indulged in it may turn out to have been a most unfortunate thing for the patient that the illness was survived.

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PHLEBITIS.

By J. G. Biller, M. D., Correctionville.

Owing partially to the fact that the venous system is to a great extent overshadowed by the arterial, and partially to the limited allusions made to it in our medical literature, it had always been rather a neglected part of my medical study. Many of our works on practice do not mention the subject of Phlebitis and it seems to be relegated to the field of surgery.

My observations have convinced me that to the general practitioner it is not a matter of secondary importance. It often explains the origin of seeming neuralgia and other indefinite pain, which, on account of the sweating and irregular fever with or without chills, is often called malaria.

In these cases an early and correct diagnosis with proper treatment, might have prevented an unexpected death or a long continued illness with much suffering to the patient and great anxiety to the physician.

It is with these thoughts in mind that I wish to present to you a few cases from practice; not that I consider them uncommon, but because they are common and for that reason important. The first group of cases are those of puerperal origin. I shall omit all cases which exhibited the typical symptoms of Phlegmasia alba dolens and will report only those cases of phlebitis accompanied with little swelling of the adjacent parts during the stage of active inflammation.

Case 1: Several years ago I was called to see a woman 38 years of age, large, fleshy, and in the eighth month of pregnancy; had seven children and always made a good recovery, except the last, when she was ill three months. Now suffers from dyspnœa, weak heart and œdematous extremities. Urine scanty and albuminous, appetite poor. Improved under treatment, so that four weeks later patient was in fair health. Delivered with forceps after a labor of twenty-four hours. Forty-eight hours after labor, pains in right leg and ankle supervened; twelve hours later dyspnœa, pulse 100, temperature 101¾, right leg below knee very painful and sensitive, no swelling. Popliteal vein hard and sensitive. Gave tincture digitalis and quinia three times a day, with morphia sufficient to control pain; restricted her to a diet of butter-milk, sweet milk and broths. Next day urine scanty and albuminous, having been normal for three weeks. Bitartrate of potash added to the digitalis. On the eighth day she had retention of urine, necessitating use of catheter twice a day until fourteenth day.

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On eleventh day pain subsided, morphia discontinued, pulse 85, temperature 99, feeling comfortable. On the fourteenth day pain commenced in right inguinal region; morphia ¼ grain given every 2½ hours and hot poultices applied. Next day femoral vein tender and swollen; in 36 hours pain was relieved so that morphia was reduced to ¼ grain night and morning. On the twentieth day, pulse 78, temperature normal, no pain and but little tenderness in leg or pelvis; heart stronger, respiration easy, urine normal, appetite good.

I was now unwise enough to give a favorable prognosis. Next morning at her request they raised her to a sitting position. In about a minute she gave an exclamation of pain; was at once lain down and in a short time was dead.

Case 2: I attended Mrs. D., aged 18, in her first confinement which was short and easy. Hands and wrists had been painful and swollen for three months, but were at that time nearly well. She had also been troubled with supra-orbital neuralgia. On the ninth day after confinement severe pain over the eyes, the face, and back part of the head supervened. Pulse 80, temperature normal, appetite had been good and bowels regular; fundus uteri two inches above the pubes. Under treatment she was kept easy and by the seventeenth day she was again comfortable. On the morning of the twenty-first day after confinement, severe pain commenced in the right groin and when seen ten or twelve hours afterwards the whole leg was painful, worse from the knee down. The tenderness could be traced from the femoral ring to the popliteal space; below this the whole leg was extremely sensitive and painful. Uterus still above the pubes and tender. Temperature 99¼, pulse 90. Morphia one-eighth of a grain every two to four hours as needed. Hot applications to the leg and a liniment of chloroform and tincture opium applied without rubbing. Treatment gave relief and was continued until the 29th day, soreness having subsided the leg and thigh were wrapped in cotton batting and roller bandage applied. Thirty-first day the left femoral vein became painful and swollen, in twelve hours the entire leg was painful. Morphia ¼ grain every three hours; left leg treated as right had been; passed through the same stages and by the forty-first day was wrapped in cotton batting and patient allowed to sit up. The uterus had remained large and tender until about the 36th day, then it decreased until the fortieth day when it was nearly normal. The roller bandage had to be worn for five or six months to control swelling.

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Case 3: Mrs. M., aged 28 years, during third pregnancy had pain in abdomen, which was very tender at confinement. Her labor was long and severe, leaving abdomen exquisitely tender. Peritonitis supervened on third day after confinement; this yielded to treatment, so that she got up on the 16th day. This was contrary to my advice, as fundus of uterus was above pubes. A profuse hemorrhage occurred on the 18th day; fluid ex. ergot was prescribed. She had been taking elixir gentian and chloride of iron with cascara, for a week previous; this was continued. On twenty-fourth day pain commenced in right thigh and extended to the leg, which became painful and tender. The patient was sitting up and had been doing house work. Pulse 100, weak and irregular, temperature 100 4-5; fundus uteri above pubes and tender, as was also the right inguinal region; $\frac{1}{3}$ grain morphia every three hours, four grains quinia four times a day, gentian and iron continued, with hot poultices to the leg. Tenderness of femoral vein less, and swelling subsided by twenty-seventh day. Cotton batting applied to leg and held in place by roller bandage. On thirty-sixth day she seemed about well. Uterus a little large, no tenderness; pulse 87 and weak. She got up on the fortieth day and gradually resumed work, the leg swelling but little.

The next two cases were caused by inflammation in the neighborhood of the iliac veins; both were young adults. The first, a young woman eighteen years of age, had an attack of typhlitis, during which a large inflammatory mass formed around the cæcum. Two days after acute symptoms had subsided, pain commenced in thigh, leg and ankle. Pulse 135, temperature 102½; thigh tender, most of the soreness was in popliteal space and ankle. The leg became large, white and shining. Treatment, morphia, hot flax-seed meal poultices, sulphate magnesia at night, tincture chloride of iron and sulphate of quinia. It was nearly a week before there was any improvement, after that the pain subsided and swelling disappeared in three or four days. The veins were sensitive for a few days longer. She was able to be about at the end of the third week. There is still a tendency to œdema when she stands much. The second of these cases was a young man of seventeen years. Two years before I had removed the right testicle for carcinoma which had returned to abdomen; pain most severe in left inguinal region. Early one evening pain began in thigh and continued severe all night, notwithstanding the fact he had ¼ grain

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of morphia every two hours. I saw him next evening, found thigh very much swollen and tender in region of femoral vein and down to popliteal space. Treatment: hot applications to thigh and ¼ grain morphia every two to four hours. For three days the pain was only partially controlled by treatment, after that it was easier; at the end of two weeks swelling and soreness had disappeared. He died in about two months from carcinoma.

Case 5: In this case phlebitis followed Parotitis. Mr. E., a farmer, aged 53 years, strong and healthy in appearance, had varicose veins on right leg for thirty years. Four years ago had malarial fever for five or six weeks. Six weeks before I saw him he had a slight attack of mumps. Shortly after he noticed that motion caused pain in veins of the leg; his appetite failed, he became languid, had occasional chills; took quinia and tonics; still continued to run down and left side began to feel sore. After a severe chill the pain in the side became so acute that I was called. Found spleen enlarged, bowels constipated, tongue covered with very peculiar heavy, white coating with scalloped margin. The veins on the leg were tender, no soreness above the knee. Temperature 101, pulse 90, sweating profusely. Morphia and quinia were given, leg wrapped in cotton and roller snugly applied; a carthartic was given. His bowels, in spite of various cathartics, found eight grains each of calomel and jalap followed by a saline, to be the only thing that acted satisfactorily. He improved for three days, then had another chill with severe pain in left side; temperature 102, pulse 96. Morphia hypodermically, hot applications to the side, and morphia by the stomach every two hours; quinia omitted. Pain in the side remained severe for three days, bowels constipated, temperature 99¾, pulse 100 to 105; the bowels then responded to cathartics. Whisky and digitalis were added to the treatment to sustain the heart's action, and notwithstanding their liberal use the pulse was 120, weak and irregular.

Dr. Hornibrook, of Cherokee, saw him, in consultation, next day. He discovered soreness and swelling in the femoral vein near the ring. The whole limb was wrapped in cotton and a roller applied. His condition remained the same for the next nine days; pulse then became stronger and dropped to 100, strength of the heart improved and pain ceased; temperature 97½. In two weeks more, liver and spleen were normal in size and sensation, veins of leg without soreness, but requiring sup-

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port, which is given with cotton and a roller bandage. This case was particularly interesting to me.

1st: Because it was so easy to attribute the sickness to malaria.

2nd: It shows that chronic pathological conditions require careful consideration in acute illness, as the varicose veins in this case.

3rd: That when a patient insists he is very sick, carefully watch him for fear you pass over his condition too lightly.

This man had consulted other physicians, who diagnosed malaria and prescribed quinia and tonics. I was called because he felt that they did not consider him very ill. It was not until I found the constant increase in pulse rate with weakening heart, that I realized the strain his vital powers were undergoing.

Case 7. Mrs. P., age 58 years: When well advanced in convalescence from an attack of croupous pneumonia, began to have pain and tenderness in the legs below the knee, with swelling of popliteal veins. She was depressed; temperature 99; heart weak, fast, and intermittent. Treatment: Hot applications to legs, with carbonate of ammonia and wine. In two days legs were easier, but swollen, pulse 90, heart regular. In about two weeks she was out on the street, legs still swollen and painful. Nearly a year afterward she called to see me about the pain and swelling in her legs. I was occupied at the time and did not see her. Shortly afterwards she died very suddenly, after having some trouble with her heart.

Cases 8 and 9 are of traumatic origin, assisted by lowered vitality, of excessive adipose deposit and age in one case; in the other by pregnancy.

Case 8. Mrs. B., age 65; large and fleshy; bruised her knee on a wagon; saw her six days afterwards; leg below the knee was purple and tender, with swollen and painful superficial veins. She refused to carry out my treatment. Ten days afterwards pain in iliac region supervened; saphenous vein swollen and tender, with tenderness at femoral ring. The treatment consisted of hot applications to painful region, with anodynes. For two days she did house work and continued to grow worse. At the end of this time she consented to remain quiet, and did so for two weeks, at which time she was well. In this case temperature normal, pulse 135.

Case 9. Mrs. H., age 30, in third month of pregnancy; veins of leg varicosed; bruised left leg on edge of a pail. When seen four days afterwards leg painful; veins of leg and

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thigh swollen and tender; head aching; languid; not sleeping well; no appetite; bowels constipated; pulse 90; temperature 99¾; cotton and bandage applied to the limb; morphia, ¼ grain three times a day, sulphate of magnesia at night, and elixir gentian and chloride of iron. In a month the leg had recovered and the woman was well until her confinement.

Case 10. Mrs. C., age 37, when in third month of pregnancy, had severe pain in abdomen, back and thigh, supposed to be neuralgia. She was confined to bed for two weeks. A few days after she was able to be up, had cerebral embolism. I discovered, when called to see her, inflammation in femoral vein. In two weeks after the occurrence of embolism, pain, and soreness in abdomen and thigh had disappeared.

From my experiences with these cases and the limited time in which they occurred, I am convinced that phlebitis is more common than generally supposed.

The treatment attempted in foregoing cases, was the relief of pain by anodynes and hot poultices; soft, firm support to veins and parts adjacent, with absolute rest in bed, stimulants as required, and after the acute stage is past, tonics.

In two of these cases phlebitis was probably the cause of death. In another there is an imperfect leg that swells, is painful and will be troublesome in later life. The two puerperal cases are well, except that the legs tire if used to excess. The remaining four cases have made a perfect recovery from the phlebitis.

DISCUSSION.

Dr. Maxwell—In order to bring the paper before the house for discussion, I would move that it be referred to the committee on publication. The motion was seconded.

Dr. T. J. Caldwell—I did not hear the author of the paper very distinctly. I failed to get the idea that I presume he meant to convey. I have no intention of discussing the subject, but I thought that the author might give his suggestion as to the proper treatment for this class of cases. I understood him, in the first place, to say that he thought the cause of phlebitis was malarial, and I also gathered from what I heard of the reading of the paper, that the treatment for it was somewhat of that character. If there was any other point in the paper, I

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failed to catch it as the paper was read. Now, Mr. President, it seems to me that the purpose of introducing papers here is not so much in hearing them read as in the discussion that may be brought out. It seems to me that we might possibly spend the time in discussing phlebitis. I would like to hear some of the physicians present upon that question.

Dr. W. F. Peck—As Dr. Caldwell has just stated, this is a very interesting subject; not so much, perhaps, on account of what the physician may do as to the understanding exactly of what is the matter. The idea that I entertain in reference to the conditions in phlebitis and also the pathology, is that we have not only inflammation of the veins but also of the valves; and then we have following embolism and the final action in phlebitis is due to the slowness of the circulation developed by the clot.

Dr. T. J. Maxwell—There are some other points in regard to the treatment of those cases of phlebitis in which we have coagulation of the blood within the veins and this could occur in the sinuses, partly from the rubbing of the parts and also the motion of the body My idea of the treatment would be trying to prevent, as much as possible, the detachment of the embolus and prevent the coagulation of the blood and embolism of the heart by detachment of a portion of the coagulated blood; that quietude should be insisted upon, and, of course, the parts supported as he has suggested, by bandage and a pad of cotton batting, or any other soft substance that would give gentle support until nature would remove gradually this clot without detachment and the consequences that follow each detachment of those clots—embolism.

Dr. S. B. Chase, of Osage, made a few remarks which the stenographer was unable to hear.

Dr. John Riley—I would like to inquire as to what condition, if any, this soreness complained of has to do with that complaint. Now, in these cases related there was the history of the swelling of the wrist or ankles, or of the limbs, in some

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cases, for two or three months; a condition of soreness and swelling and then, after confinement, or some sudden exposure, followed by phlebitis. What relation would this soreness or this swelling have to the disease? Was it a case of rheumatic trouble, followed by phlebitis or was there phlebitis there all the time unrecognized? Or, when we see these cases of swelling of the limbs, should we treat them at once as provided, or should we treat them for some other complaint, fearing phlebitis might follow? I would like to have some one express his opinion on that subject. I would like to know what the author of the paper thinks of that; it is interesting to me because we do see them that way and we ought to give our treatment in time.

Dr. J. R. Biller—Perhaps I have been rather unfortunate in not making myself entirely plain. I did not intend to contribute a theory of treatment as to any particular case. My object was to show in these cases that in each case the power of resisting disease was lowered by some previous illness in which case the phlebitis came on. I think the gentleman must have misunderstood the paper when he thinks there had been continued swelling of the parts before. The swelling generally came on after phlebitis had begun and continues to swell afterwards. I have not tried to reason out the etiology and that has not been my intention. I intended to give it to the society and draw out the opinion of the other members. The intention has been not to dwell upon the pathology at all, but to have the other members discuss that.

On motion of Dr. Maxwell, the paper was here referred to the committee on publication.

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AFTERNOON SESSION—APRIL 16TH, 1890.

NATURE AND TREATMENT OF DIPHTHERIA.

By GEORGE F. JENKINS, M. D., Keokuk.

It is my intention at this time to consider only a few practical points in regard to the nature and treatment of diphtheria. I think it is almost universally admitted that this disease is caused by a specific germ, and that it never springs up *de novo*. It generally occurs in infancy and childhood, and like most contagious diseases, has a special predilection for certain families, and in those families showing a decided susceptibility it is very apt to be characterized by malignancy. Where susceptibility is great the period of incubation is short, and the type of the disease severe. Either an acute or chronic catarrhal condition of the pharynx increases the susceptibility.

One of the most important questions, according to my mind, is whether diphtheria is primarily a local or a constitutional disease. Most of the old authors considered the diphtheritic exudate in the throat a local expression of a constitutional disease, but does the microscope indicate that such is the fact, or chemical experience justify such a conclusion? Being influenced alone by clinical observation, I had concluded long before the germ theory was established, that the disease was primarily local. The acceptance of the germ theory has still further convinced me of this important fact. Diphtheria is inoculable and it first manifests itself at the point of infection, whether this be upon a mucous membrane or upon an abraded cutaneous surface. The microbes are generally received during inspiration. They find a suitable soil, friendly secretions and a proper receptacle in the mucous folicles over the exterior of the tonsils, especially if these organs are undergoing the changes due to a catarrhal inflammation. Here they undergo rapid multiplication, and by their irritation produce hyperæmia, migration of leucocytes, proliferation of cells, exudation of fibrin, etc. After a short time, the duration of which depends upon the severity of the case, the germs enter the lymphatics, and through this channel infect the general system. The period of incubation is always short in diphtheria. It corresponds in duration to that of the process of multiplication and development of the germs. When the bacteria have been produced in sufficient numbers they excite inflammation and exudation. At this time

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the disease is certainly local; but in a comparatively short time the germs enter the lymphatics and thus produce constitutional infection.

The acceptance of the germ theory has done much to convince me that diphtheria is primarily local, but we will try to show some grounds for our belief from clinical observation. In some very mild cases characterized by a genuine diphtheritic membrane over the face of the tonsils, there is no fever or other constitutional symptoms. In all cases characterized by the initial chill, followed by febrile movement, aching of the head, back and limbs, nausea and probably vomiting and other constitutional symptoms, we find upon the very earliest possible examination of the throat evidence of a specific inflammation of the pharynx, and generally the characteristic false membrane on one or both tonsils. The large majority of cases, if seen at this time and properly treated by local germicides, will promptly recover without albuminuria, paralysis or any other complication or sequel; but if not treated as above indicated, during the first day or two, the case will be protracted and characterized by toxæmic symptoms. If you disinfect and destroy the diphtheritic exudate during the first twenty-four hours, you never have those grave toxæmic symptoms which are almost invariably followed by death, viz. entire loss of appetite, uncontrollable vomiting, slow irregular pulse, cold extremities, epistaxis, profound adynamia, etc. To illustrate, I will mention important facts in connection with cases that I have seen: In 1875 we had an extensive epidemic of diphtheria in Keokuk. I saw in all about 80 cases, some of them very severe and others very mild, but I called nothing diphtheria that was not characterized by a well defined fibrinous exudate in the pharynx. My observation during this epidemic convinced me that those cases treated energetically from the first, with germicides, were not followed by the grave constitutional symptoms characteristic of the disease under other methods of treatment. I recall several families that furnish histories about like the following: A boy nine years old, was attacked with a moderately severe form of the disease. During Wednesday night he was treated with domestic remedies, and by an irregular physician, until Saturday night, when I was called. They called me because three other younger children were taken quite suddenly during the day. They reported that they were all taken more suddenly and violently than the older boy. I found them with temperatures ranging from 102 to 105, pulse

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quick, nausea and vomiting; tendency to stupor, with restlessness, and some complaint of the throat. Upon an examination of the throat I found extensive exudation over the tonsils in all, and in one the entire pharynx was covered with a grayish-white membrane.

I then examined the older boy, who had been sick three days. He had no fever, pulse slower than natural, vomited whenever anything was taken into the stomach, bowels rather loose, great prostration, etc. Upon making an examination of his throat I found quite an extensive grayish yellow exudate; it had extended up into the posterior nares. He had the characteristic fetor of breath that we find in the septic variety of diphtheria, some epistaxis and swelling of the cervical lymphatics. I made the same application to all their throats:

℞

Acidi carbolici gr x.
Sol. ferri persulph,
Glycerinæ aa oz j.

Misce—Sig: Apply to the entire pharynx three times a day, with a sponge probang. This application destroys the germs and removes the exudate. The next morning the application was made again. I found the older boy's throat nearly free from membrane, but the Schneiderian membrane was still covered, and a bloody ichorous discharge containing shreds of false membrane came from both nostrils, and there was still much fetor. His toxæmic symptoms were still more pronounced. He was given whisky, iron and nutritions fluid food, and quinine hypodermically, but he died on the twelfth day of the disease, from the combined effects of diphtheritic and septic blood poisoning.

Had this case been seen during the first twenty-four hours and the germicide solution been thoroughly applied and repeated if necessary, he would not have suffered either from diphtheritic or septic blood poisoning, and would have consequently recovered. The other three children, all of whom were younger and more severely afflicted at the outset, recovered in a few days. I have had a similar experience to this in many famlies since.

Another point in dispute is the identity or non-identity of laryngeal diphtheria and pseudo-membranous croup. The majority of the profession, if we may judge from the literature, believe the diseases are not identical. My clinical experience

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leads me to believe that certainly nearly all cases of membranous croup are caused by the specific germs of diphtheria. You may have sporadic cases of croup, but generally there are a number of cases in the community at about the same time. I have treated six cases in a month, and at a time when there was practically no pharyngeal diphtheria in the city; however, in all these cases I could, by a careful inspection of the fauces, see membrane on the epiglottis, and in some of them, low down in the posterior pharynx.

Certainly 19 cases out of 20 of membranous croup are caused by the diphtheritic poison, and hence all should be treated as though they were contagious. The exudate in the larynx lies upon the surface of the mucous membrane, while in nearly all cases of membranous formation in the pharynx, more or less of the mucous membrane is incorporated in the exudate. This difference is consequent upon the character of the epithelium covering the mucous membrane and not as is sometimes claimed, the one a croupous and the other a diphtheritic exudation.

TREATMENT:—Diphtheria should have both local and general treatment from the beginning. The physician who neglects either will be unsuccessful in a greater number of cases than he would be if he used both continuously and faithfully from the outset. Quite frequently you will hear physicians say they don't use local treatment, claiming that the worry and excitement consequent upon the effort produces more harm than the application does good. I am sure many lives are lost annually by want of confidence in the importance of local treatment.

There is a wonderfully rapid multiplication of the bacteria within and under the exudate. If you can entirely destroy these germs, you speedily cure your patient; if you can arrest the propagation and prevent such rapid saturation of the system, you make the disease correspondingly mild. While you are using your local germicedes, you should at the same time by tonics, stimulants and antiseptics, as speedily as possible put the system in the best condition to resist the poison that may be absorbed.

There are many varieties of local treatment. The indications are to destroy the microbes, remove the exudate and allay the inflammation. The germicide that most effectually meets these indications is the best. Many rely upon sulphur thrown into the fauces by a powder insufflator, others use boracic acid

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salicylic acid, napthalin, trypsin, papoid, or preparations of mercury. All these remedies and many more are very good when properly applied. Some use their remedies in more or less dilute solutions, and apply them by the repeated use of the atomizer. Others rely upon the local effect of certain internal remedies given at short intervals, while still others like to use stronger germicides and apply them at stated intervals with some form of throat application. I have had excellent results from the use of the following formula:

℞
Acidi carbolici gr. x.
Sol. ferri persulph,
Glycerinæ, aa ℥j.

Misce—Sig: Apply three times a day with a sponge probang till the membrane is entirely gone.

This application is destructive to the microbes, and also coagulates and granulates the fibrinous exudate. It does not destroy normal tissue, but lessens the caliber of the vessels, so as to prevent the absorption of diphtheritic or septic elements. In bad cases it should be applied three times a day by the physician himself. During the intervals the throat and nostrils should be frequently sprayed with warm carbolized lime water or a weak solution of corrosive sublimate. I have frequently seen one application of this prescription remove the exudate when it covered the entire face of both tonsils, and then by a few subsequent applications its reformation was prevented.

A soft sponge or a pledget of absorbent cotton caught in a cotton holder, is better for making the application than a brush or anything else. My internal treatment for pharyngeal diphtheria is generally composed of germicides, tonics and stimulants, with plenty of nutritious fluid food given at frequent intervals. The following is an excellent prescription:

℞
Hydrarg. chlorodi corrosivi, gr ss.
Tr. ferri chloridi ʒiij.
Glycerinæ ℥ijss.

Misce—Sig: Teaspoonful every two hours.

I sometimes give the tr. ferri chlor. in small doses every two hours, alternately with the following powders:

℞
Hyd. iodidi rubra gr. ss.
Sacch. lactis ʒij.

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Misce. ft. cht. xxx. Precipitate one powder into the throat every one or two hours and take no water for half an hour. Quinine and antipyrin are beneficial in some cases. Stimulants in the form of good whisky should be given freely. The child should be kept mildly under the influence of stimulants all the time. In all severe cases there is nausea and vomiting, and frequently in these cases whisky is much better tolerated than any of the bitter tonics, and for this reason does more good.

In laryngeal diphtheria, or what is generally called pseudo-membranous croup, about the only way to medicate locally is with the atomizer, or by steam. Probably spraying the larynx with a warm solution of boracic acid or corrosive chloride of mercury every two hours, and keeping the room filled with the vapor of turpentine by putting a tablespoonful in boiling water from time to time, is about the most satisfactory line of treatment. It is my experience that very few children will tolerate the proper use of the atomizer. Internally I generally give the following:

℞
Hyd. chl. mitis grs. xx.
Potass. bicarb ʒ ss.
Sacch. lactis ʒ ss.

Misce ft. cht. x. Sig: One powder every two hours till the bowels are freely moved and the cough loses its brassy character. If an emetic is strongly indicated I give two grains of turpeth mineral and repeat in half an hour if it does not produce emesis. By following this treatment I have saved several cases of membranous croup. Under the treatment with lime vapor, or spraying with lime water and using internally quinine, iron and stimulants, I lost about all. Stimulants should be given freely in diphtheritic croup to neutralize the poison and sustain the heart's action. Tracheotomy has never saved a case in Keokuk during the twenty-three years that I have practiced there, probably because it was delayed too long. I have been equally unsuccessful with the two intubations that I have performed. Intubation is preferable to tracheotomy because it leaves no wound to invite absorption of the microbes. If intubation is performed early it will certainly save many lives.

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DR. KINNIER—I am glad to say this paper has the right ring in it. I do not know that I have heard any paper in years in medical societies that pleases me any better than this; although I think there are a few little things that might not be rightly interpreted in these papers and that some men in their zeal might carry to excess. Now, I believe if there is any one thing that does injury in diphtheria, it is pulling and working at the membrane, and while I cannot concur entirely with the author of this paper, in the use of the swab, I believe the moment the child struggles or you open a raw surface, you open the mouths of vessels and you leave the part free for the absorbtion of septic matter and constitutional symptoms immediately appear; it is with that exactly as it is with every other operation. I think that is one of the most important things that we can turn our attention to. In the treatment of this terrible malady, I have been appalled by what I have heard medical men term probangs, swabs, brushes and instruments of all kinds in the treatment of diphtheria. But this paper has the right ring in it; as I said before, I don't know that I have heard anything that pleases me better, and I shall be glad to hear this paper fully discussed, because I think it is a good one and has excellent advice in it. The only thing that I could criticise in it, would be the very careful use of probangs, swabs and cotton, etc. I think those remedies have seen their day. I believe that the various preparations of mercury can be properly used by insufflation. I think it is preferable to use it in that way. Do not disturb the membrane at all unless it is loose and giving the child annoyance.

DR. J. W. LA GRANGE—I was very much pleased with this paper of the Doctor's and I want to raise my voice in regard to one part of the treatment, and that is the mercurial part. I used to use the probang and the swab, the quinia and the iron, but I have discarded this treatment because I became satisfied that with simple supporting treatment I could save more patients. The last year I have practiced I have used the mercurial treatment. I have used, as a general thing, the cal-

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omel rubbed up with a little sugar of milk dropped on the tongue. Along in the last of December and the first of January I had a case of membranous croup. For four days I did not know whether it was membranous croup or a diphtheritic malady. So far as the treatments were concerned it did not make any difference. I put this little boy upon calomel rubbed up with sugar of milk. There was no trouble about getting him to take it; I dropped it on his tongue, and for ninety-six hours I gave that boy about half a grain of calomel rubbed up with two or three grains of the sugar of milk every hour, and you can figure up how much calomel I gave in the ninety-six hours. The membrane became detached and was vomited and coughed up by the handful. After seventy-two hours there was a deposit on his throat and the glands of the neck began to swell and I knew I had a case of membranous diphtheria. The boy made a nice recovery, the first case in all my experience to get well. About six weeks ago I was called to see a case of malignant diphtheria. I put him on the calomel treatment, and the boy, in about a week made a nice recovery. Of course, I used some stimulants that helped. And about a week ago I was called back to the same family; there were three more of the family had the diphtheria. I used the same treatment. In forty-eight hours the deposit all left the throat. The little girl was about nine years old. Hers was a case of a serious character, and the throat and tonsils showed that it was one of those most malignant cases. After seventy-two hours I changed the treatment from the calomel and sugar of milk treatment to corrosive sublimate because she objected to taking the calomel. I put on her tongue one thirty-second of a grain of corrosive sublimate to a drachm of water. She would take that without any trouble. I had given her doses of that every hour for seventy-two hours. I saw the little girl this morning before I left home. She was very bad—very low; last night I did not think she would live until morning; this morning the symptoms were favorable, giving her all the whisky and milk we could get down her she did not vomit once; she had taken

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a great quantity of milk and had no disturbance of the bowels. Now, I gave her that amount of corrosive sublimate for seventy-two hours. It may seem heroic, but I am satisfied of one thing, that the mercurial is the proper treatment for diphtheria.

DR. PORTERFIELD, Spring Hill—If it would not be out of the line of discussion on this subject of diphtheria, I would say I am puzzled a little, more or less, with this follicular pharyngitis, and especially during an epidemic. I would like to ask the Society whether those cases should be quarantined; whether there is any particular connection between the pharyngeal and the follicular; especially are we interested in this matter of quarantine.

DR. J. F. KENNEDY—I would like to answer Doctor Porterfield as to the matter that he suggests. I think that when there is an epidemic of diphtheria in a community, all cases of follicular tonsilitis are suspicious, to say the least, and those suffering from a complication of that kind ought to be isolated, if not quarantined. I will say, while I have the floor, I was very much interested in the paper by Dr. Jenkins; very much interested, especially in the idea that he suggested of not only the possibility, but the probability, of the identity of membranous croup and diphtheria.

DR. PRIESTLY, Des Moines.—Mr. President:—I think the paper a most excellent and timely one. We have just gone through a very sharp epidemic of diphtheria in our city; we have had a great many cases and a great many deaths. I think that we have had—I know that we have had it as a constitutional disease before there is any manifestation of membrane whatever. I can bear witness and some of the gentlemen here will bear me out when I say that I have seen some cases which none of us had the ability to diagnose, and no doubt there were others. For instance, take one child that had convulsions and the convulsions kept occurring and it was repeatedly examined after thirty-six hours and not a sign of any membrane in the throat, in the fauces, or in the larynx. At the end of forty-

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eight hours ulcers appeared on the throat. In a few days the child died with diphtheria. One of the worst cases I ever treated in my life was diphtheria of the vagina; a woman about eighteen years of age; no manifestations anywhere else. And I remember well another case with the same history. The late Dr. Rawson saw the case, was twice in consultation with me, and the child thoroughly examined, and we could find no evidence of diphtheritic membrane. Following it was quite an epidemic of diphtheria. So I am convinced that diphtheria is a constitutional disease with local manifestations.

Now, with regard to follicular tonsillitis I think they are two distinct diseases. It is well known if you have any abraided spot, or where the membrane is liable to be developed, you can have cases, but they will be nothing but tonsillitis; and if you have in it follicular diphtheria you can have it developed.

Dr. Sill, Strawberry Point:—There is just one point I want to speak of. I do not expect to throw any light on this subject, but I distinctly remember the outbreak of two epidemics of diphtheria. I was urgently called one day out of town about a mile to see a little boy that had a very serious pain in the foot. It was in August after the wheat had been cut and the little fellow had been carrying bundles of wheat and he was barefooted and on the outer aspect of the foot just below the malleolus there was white exudation and I thrust my hand in my pocket for my scalpel to open it. I supposed it was full of pus; had no idea but it was a little abscess full of pus and painful and as I approached it I saw it was a diphtheritic exudation. I asked him if his throat was sore and he said it was a little. There was no pus in the sore whatever. It was the beginning of an epidemic and was quarantined—limited to that house—but it went through the whole family except the parents. Strabismus was the result. Another was a little girl playing at school on the frosty ground and in running in front of the school room she fell down upon the frozen ground and denuded a little from the patella nearly the size of my finger nail. This diphtheritic exudation was manifest there and in her throat,

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and she went down to death in spite of all we could do, and she was not in my hands either. I found out one thing, that my brethren in practice of medicine differ very much. One advocates swabbing, one advocates mercury, another iron antiseptically. I would say get all the hot steam into them you can.

Dr. Crouse, Waterloo:—It looks like we were getting the profession here a little cross-wise at each other as to whether this is a constitutional disease or a local manifestation, and I do not know but we will have to finally decide it is both from the history of these patients. The question was asked how we will tell follicular pharyngitis from diphtheria. Perhaps we may not all agree, but follicular pharyngitis, in a large majority of cases, can be easily wiped off by carbolic acid; it is on the membranes and is not under them. I believe that to be largely the rule and even when it is prevailing with diphtheria and in the same family, I have been able, by that process, to see one child had not diphtheria when I had two others in the family that did have. I believe that there is a great distinction between follicular pharyngitis and diptheria. Now, as to larnygeal diphtheria and membranous croup, I believe them to be one and the same thing. I believe when we have mercury and take any line of treatment that we feel sure is going to cure our cases and there happens to be an epidemic of diphtheria prevailing in their neighborhood, we very soon strike some family that we have very little power over with any of them. For some years we have had the same treatment but afterward—and, sometimes backed by distinguished names, that would cure diphtheria that had been followed out by some of the professors themselves, after publishing it to the world for three or four years prior, and have had as many as three or four to die in one family. Now, when that occurs they certainly cannot have much power over the cases. In pharyngeal diphtheria and membranous croup cases do get well, but the mortality everywhere in all epidemics, not only in my practice but in the practice of those surrounding me and all that I have heard about, is very great. There are families in

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which two, three, four, five and even ten in a single family die of diphtheria and treated by the use of bi-chloride of mercury which is probably one of the best preparations for that purpose; treating locally and constitutionally and supporting the patient. And this paper is of value to keep this society comfortably stirred up on that question until we can drop out of the death record much more than we have yet done. I was very much interested in this paper as this question comes home to us every year.

A few weeks ago I lost a patient from diphtheria that had no membrane in the throat, and none in the fauces; all had disappeared; the patient had not got up to be about the house but was sitting up in bed; very suddenly there began to be some difficulty and it died, as I supposed either from change in the structure of the heart or heart failure, and I am sure it is a constitutional disease and we are also sure we have local manifestation, but which is first the professors have left us unable to decide.

Dr. Sill—I wanted to say one word while I was up. It was simply this, that a question was brought up in our local society "Does diphtheria arise from scarlatina or vice versa?" I have seen them both manifested. One was a diphtheria epidemic and one was scarlatina straight as I ever saw it; result, a part scarlatina and a part diphtheria.

Dr. G. F. Jenkins—The object which I had in writing this paper was intended simply to express my own views in regard to the nature and treatment of diphtheria, and that object has been accomplished. I think it only shows a difference of opinion on that subject among medical men. But my opinion that diphtheria is a local disease primarily could be substantiated by a large number of the very ablest authorities to-day, running from La Fleure clear through a long list, but I do not think it necessary to sustain what I said by authority; you are all reading physicians and get that in books. The point that has convinced me that it is local in the beginning, and as I said in that paper, it is a very short time before it becomes constitu-

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tional; sometimes there is a very little poison there and it takes several days to work sufficiently to begin to show inflammation and finally exudation; other times when there is a great deal of susceptibility on the part of the patient and the poison is there in concentrated form it produces its effect locally very promptly and very quickly becomes constitutional. Another thing that satisfies me that it is a local disease primarily, is, as I indicated by the report in regard to that family, the case that I saw after three days I could do nothing with; it was already a constitutional disease; there was diphtheritic poison there and nobody could have saved that case; whisky or nothing else could have saved it. The other cases I saw right away and they would undoubtedly have been as bad if it had not been for local treatment. It is the fact; I have seen so many cases—very severe cases of diphtheria when I was called early, recover so well, and I have seen so many where they have been neglected and they died. That is the history and the reason I wanted to impress upon this Society the importance of that particular matter so they would be more careful to make patrons feel the importance of calling their assistance early in order for them to get the better of this disease. I believe it is primarily local, I cannot believe anything else. I know a great many authors take different grounds, and I know it very soon becomes constitutional.

SUGGESTIONS FOR THE GOOD OF THE SOCIETY.

By William Watson, M. D., Dubuque.

When a case is presented to us, as medical men, for a professional opinion, before prescribing a remedy, we endeavor by a careful consideration to ascertain its true character, and the organs or functions involved. We not infrequently meet with cases where the cause of complaint is the lack of symmetrical normal development of structure or function. If the period of development has not passed, by a careful study of the defects we seek to remedy them by securing increased development where deficient.

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The case to which I desire to call your attention for a short time, I regard as one of defective or asymetrical development; one where neither the best results are obtained, nor the highest type of production attainable secured. This I shall assume to be a correct diagnosis and shall not take your time to establish it.

If there are those who doubt the existence of any defect, rather than consume time in trying to convince them, I should be disposed to suggest they be referred to a committee consisting of Drs. Gilman, Hill, Lewellen and Powell, who are accustomed to dealing with patients who deny the existence of an ailment.

The case is that of the Iowa State Medical Society, which I will present in the form of an interrogatory.

Can the interest of the meetings be increased?

Can the standard of the transactions be raised? If so, How?

The elements involved are: First, the time and labor of those who have expended them in making researches, recording observations, collating facts and preparing them in an acceptable form for presentation to the society, as upon the results of their labors depends much of the value, interest and success of the meetings. Second, the time and interests of the one hundred or one hundred and fifty members in attendance upon the meetings. Third, the money and continued interests of the four or five hundred who contribute to the financial support of the society, without whose aid we should be unable to publish our transactions. The Society having increased in numbers and become more fixed in personnel by the regular attendance of a goodly list of permanent members, the usages and regulations for its meetings in the earlier years do not secure as satisfactory results as they formerly did. This causes disappointment and discontent. While there is no lack of material, some of those whose experience and studies would give practical value to their contributions have been crowded out, or their papers have been read by title and referred, while the time they should have had was consumed by an unusually long paper or an extended discussion often barren of practical points. But the injury does not stop here. Members who have sacrificed time and money to attend the meetings have gone away dissatisfied, resolving to waste no more of either in the future. Another cause of trouble has arisen from taking time that belongs to the business to accept some invitation which may prove a gratification or subserve the purpose of the designer; yet it is a permanent injury, as it is a sacrifice of the highest aims and purposes of the meeting,

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viz., professional improvement. At one meeting it was a short excursion to visit an object of interest; at another a steamboat excursion to make acquaintances in the interest of the donor; at another a fine ride to view the city and suburban real estate; and again, to see a notable public improvement. While I admit the value and gratification these things yield, I cannot regard them as worth what they cost when procured by a sacrifice of the time that is required to do the business and promote the objects for which this Society was organized and these meetings are held. Nothing of this kind should be considered, nor any important change in the order of business be made except upon the report of the committee of arrangements, who know the business before the Society and the time at its disposal. Efforts have been made to remedy these evils. Some years ago the sessions were extended to three days. Then a rule was adopted restricting a section to four hours, until all should have a hearing; and another limiting papers to twenty minutes, and the discussion to twenty minutes, but these rules have been disregarded, and three-quarters of an hour of the time of the Society has been spent in listening to a paper that was not discussed or published from want of practical interest; and others of equal length that two-thirds of the members could not hear from lack of volume of voice in the reader. This last evil is often illustrated in the discussions by the member addressing his remarks to the chair with his back to three-fourths of his listeners, who fail to hear him. It would add to the interest and good order if each member should make an effort, that all could hear who desired to do so.

Another source of confusion and injustice to those offering papers in the smaller sections arises from the admission of papers to the larger sections after the committee of arrangements have completed their program; thus crowding, towards the close of the session, those who had presented papers early and been assigned a place, which in some instances has induced members to withdraw their valuable papers. Others have been withdrawn where the authors desired to be sure of their publication within a reasonable time.

In relation to the second query: There is no doubt an improvement of the standard of papers would soon result from even a partial removal of the difficulties already noticed, by giving a reasonable certainty of a hearing and publication to anyone who would offer a good practical paper. That the transactions have received unfavorable criticism is well known.

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An unpleasant feature is that to some extent it has been merited, and more would have been due had the ill advised action passed at one of our meetings been binding: "Directing the committee to publish every paper read before the society."

That a paper is not worthy of publication, by no means stamps it as undeserving a hearing or unprofitable, as while it may not contain any original matter, it may present practical points and elicit a discussion and exchange of views of real value. Of this class I think this paper is a good illlustration. The Society might consider the question: Would it be wise to give the committee on publication the authority to return to the authors such papers as soon after the close of the meeting as they could be examined, with permission to publish in some medical journal if they desired? It would tend to relieve the committee, and in some cases be acceptable to the authors.

Another class of papers many think can be condensed with profit, both before and after reading, viz.: The report of chairmen of sections. There is a laudable desire to present something. Unless the writer has kept careful watch in his reading, and made notes with this in view, he may find his materials scanty and the temptation to supply the lack by a liberal extract from, or a reproduction of the points of, some article that has interested him, is strong.

While it may not be an entire waste of time to listen to such papers, it would certainly be a waste of money to expend it for a re-print. A careful condensation and thorough pruning of such papers before publishing, will tend to the best interest of economy and reputation.

Having presented what appears to me as some of the causes of failure and dissatisfaction, viz.: The lack of an equitable division of time; the failure to enforce such rules as will secure the modest and unassuming member a hearing; interfering with the work of the committee of arrangements without consulting them by accepting invitations or papers of which they had no knowledge and for which they have not provided. I have no specific remedy to offer. I think nearly all will admit something can and should be done. An important step would be to avoid the waste or misappropriation of time; this, with as systematic a division as possible, rigidly adhered to, would go far toward securing a hearing for all desiring it, and tend to the condensing of papers rather than their expansion, often improving their character. A similar rule applied to discussions, allowing a member to speak but once, until all who desire have

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spoken or the time has expired, would tend to more carefully considered statements and more distinct points, to the advantage of hearer and speaker. The subject is presented with the desire of securing an expression of opinion from many present, and should it be deemed worthy of further consideration, a carefully selected committee, representing both experienced and conservative, as well as the enthusiastic and progressive elements, might be constituted to receive and consider any suggestions that might be offered, and report at a future meeting.

Dr. J. F. Kennedy—In addition to the practical suggestion made by Dr. Watson in his paper, I wish to state one in which I think all are interested. We have a standing resolution, introduced several years ago, that no papers should be read except by title unless the author was present. I think it is a very good rule and I think the members of the Society who are present with their papers should be given a hearing, at any rate, and papers of this character held back until others are presented.

DISEASES OF THE THYROID GLAND.

By Elizabeth Hess, Iowa City.

The function of the thyroid gland has been the subject of much discussion and considerable experiment; but no conclusions have yet been based on perfectly reliable data.

The pathologist has studied the diseased action of the elusive organ, but deductions, rather than conclusions, are the result of his labors. All authorities, however, agree that, although in health its use is difficult to determine, in certain pathological conditions it interferes powerfully with the successful working of the nervous forces.

The minute anatomy of the gland shows it to be well organized for its work, mysterious though it be. The thin layer of dense areolar tissue enclosing it sends down into the substance of the gland strong fibrous trabiculæ which enclose the thyroid vesicles, which are sacs of thin hyaline membrane, lined by epithelial cells, which are filled by a transparent colloid material; these cells are surrounded by a capillary plexus and many lymphatics.

In these cells are found epithelium colorless blood corpuscles and disintegating colored corpuscles. The gland produces

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this colloid material, which is carried off by the lymphatics and discharged into the blood.

As before stated, our ideas are as yet obtained by deductions. Certain results, following the surgical removal of the thyroid, have been so grave that some mention of them is, at least, important in establishing the fact that there must be an intimate connection between this body and some important nervous centres. It has been asserted that the spleen is in sympathy with the thyroid; and that possibly their functions may be complemental. Sajous cites a case in which extirpation of the spleen was followed by enlargement of the thyroid; another in which hypertrophy of the spleen was followed by a similar condition of the thyroid. Horsley found lymphatic tissue in intimate relation with blood vessels, similar in arrangement to the malpighian bodies of the spleen, while the blood in the thyroid vein was richer in corpuscles than was the artery. He also found that in his experiments on animals, removal of the thyroid produced a condition resembling human myxœdema. He believed this depended on nutritive changes.

Dogs on which thyroidectomy was performed died in from two to twenty-one days with tremons, spasms and atrophy. The congenital absence of the gland is reported by Virchow as extremely rare. The greater number of authorities report that total extirpation of the gland in the human subject is followed by myxœdema, or a condition similar.

In children the operation has been followed by arrest of development. An idiopathic condition similar to this is described as idiocy, with pachydermic cachexia. I will not tax your patience with any further literature on this part of the subject. Suffice it to say, that the thyroid is an organ to be respected in health and feared in disease.

Goitre is of sufficiently frequent occurrence to be familiar to every practitioner. Occurring most frequently in women, the deformity is often the principal cause of annoyance; yet the disturbance of circulation and respiration, as well as the irritating cough, which so frequently accompanies these symptoms, call for relief. The pressure is not always in proportion to the external appearance of hypertrophy, and in such a case one may suspect an encroachment on the deeper lying tissues.

Hamilton reported a case in which the gland had completely encircled the upper rings of the trachea, the latter being constricted until the space would hardly admit a goose quill.

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Bruns reports a case of congenital development of thyroid tissue inside the trachea.

In recording the etiology of goitre we have less data than European countries, where whole localities are stricken with the disease and where improper water, low living, bad air, and little sunshine are the evil factors. With us cases are more isolated and live under the same general hygienic conditions as their more fortunate fellows.

Aside from gravidity, the cases that have come under my own observation have, with a few exceptions, been members of families of strumous diathesis or of markedly nervous tendencies; two were the daughters of hysterical mothers, and one, a girl of highly excitable nervous organization, was born under circumstances of great domestic trouble. In but one single instance did the patient lay claim to entirely healthful antecedents. A condition of anæmia is almost always observable, especially in youthful patients.

In that peculiar disease known as exophthalmic goitre, our diagnosis is rendered certain by three pathognomonic symptoms; yet I have felt entirely justifiable in recognizing this condition, in the absence or only slight appearance of exophthalmos. This disease, partially described by Graves in 1835, and five years later more thoroughly by Basedow, is still very meagre in literature. Morbid anatomists have been baffled in their attempts to tabulate satisfactory evidence in regard to the seat of the disease. In some cases no pathological condition referable to the disease was found, while in others, the brain, spinal cord, and sympathetic system, gave evidence of morbid changes. Basedow believed it to depend on certain nutritive changes; Horsley seemed to agree with him.

The weight of evidence to-day lays the fault on the medulla, upper cervical spinal cord, or the vaso motor system. Among the various causes which contribute to the development of this disease, we find strong mental emotions, hysteria and neurasthenia, as well as the shock resulting from great physical exertion. The connection between these conditions and the nervous system is significant of its origin. Their more delicate nervous organization makes the fact easily explained that the disease occurs most frequently in women. Pregnancy favors its development, although Souza Leida reports a case in which amelioration of all these symptoms took place during this condition. The very marked symptoms of goitre, exophthalmos, and acceleration of the heart's action are accompanied by other disturb-

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ances more or less pronounced, which are directly referable to the nervous system. A case which proved very interesting to me may be worth a few minutes of your time.

A German woman aged 33 had for many years suffered from valvular trouble and gradually increased hypertrophy of the heart. I have reason to believe the trouble was congenital, since she cannot remember when it was first discovered. She walked an unusual distance one hot July day, and on arriving at her destination was prostrated with alarming syncope. I was hurriedly called and found her returning to consciousness, pallid, bathed in cold perspiration, heart very irregular and weak, and she believed herself to be dying. Under restoratives she recovered sufficiently to be placed in a carriage and taken to her home, where for two or three weeks she suffered extremely from the effect of her imprudence. After having been absent a few days I was called to see her about a very troublesome cough, and found a new train of symptoms.

A goitre, which had slightly troubled her at times for several years, was very much increased in size; her eyes were unduly prominent; and her heart, habitually irregular, beat so rapidly that the radial pulse was an indistinct flutter, varied by occasional bounds. Placing my ear at her heart the tumultous rapid throbbing of the organ was alarming. It was so rapid, and at the same time so irregular, that my efforts to count it failed, while a frequent heavy thud shook her chest. Her respirations were very rapid, and she coughed incessantly, expectorating small quantities of mucus and blood. The lower limbs were very œdematous. During the week following there was severe hemicrania, sleeplessness, vertigo, anorexia and great thirst. Her mind wandered; the urine was slightly albuminous, which symptom disappeared after a few days. The exophthalmos increased until her eyes had that peculiar fixed glare, which makes so painful a change in the expression of the sufferer.

At the end of another week I could see a change for the better in her symptoms. The cough was less frequent, the goitre diminished, her eyes improved. At the end of eight weeks the trouble had, to all appearances, practically disappeared, and I had the original trouble to cope with. This occurred five years ago and there has been no recurrence. The goitre is only slightly visible, her eyes are normal in appearance, and the heart, which is remarkable for its tumultuous irregularity, has never again attained the rapidity of those few weeks. During the first week, and until the cough had begun to subside, I

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gave her potassium iodide in moderate doses, and digitalis freely; and I may say here that this was the only case of this class in which I ever found this drug useful. Faradization was applied to the goitre and along the spine. This woman's mother had an immense goitre and died suddenly at the age of 40.

Another case persisted longer and ended less happily. A bright, active woman, of somewhat nervous temperament, the mother of six children who came in rapid succession, gave a history of exophthalmic goitre which had existed for five years. During that period she had been able to attend to the greater part of her household duties. Between five and six months previous to the date of my first visit she became pregnant, and from the beginning of this condition her symptoms grew more serious. I found her with a goitre almost filling the anterior portion of the neck. Her eyes were so prominent that she could, with difficulty, close them, and her circulation varied in rapidity, during my subsequent visits, from 120 to 140 beats per minute. Tremor of the facial muscles was marked. She was very emotional and apprehensive; ædema of lower limbs, mental disturbance, and obstinate constipation were prominent symptoms at this time. Cough was the most distressing symptom, coming on in paroxysms, and sometimes lasting for hours; her temperature generally normal, sometimes rose a degree; the urine never showed a trace of albumin; the specific gravity was high, and there was an abnormal secretion of saliva. After a few weeks of treatment the cough was not so persistent, the œdema disappeared, and the goitre reduced in size; but the mental aberration increased and settled into a fixed desire to get out of doors. If engaged in any kind of work she would suddenly drop whatever she had in her hands and, with much appearance of excitement, rush out of the house. Two months after I was first called to the case, I was hastily summoned one evening, and found her suffering extremely from coughing and dyspnœa, expectorating considerable quantities of blood, bright red in color. Her heart was rapid, irregular and bounding. She was cold, very pale, and absolutely struggled for breath, and complained of intense pain in chest, neck and head. Death seemed imminent, but, under an ether stimulant, digitalis, and finally an opiate, she passed the night more quietly. In the morning I found her comparatively comfortable, eating her breakfast. It seemed to me necessary to cut the trouble short by inducing labor, but on examination found a completely dilated os, with labor advancing into the second stage, without the

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slightest knowledge on her part. In the afternoon pains came on quick and sharp; she bore them well, seemed strong, rational and hopeful, and in another hour the child was delivered, and had, apparently, been dead some hours. In about twenty minutes, during which time she had been quiet and cheerful, my patient suddenly, with great excitement, shouted out, "Let me go out," and immediately ensued a violent maniacal delirium, which persisted for two hours and ended in death. There were no convulsions, only the continual struggling and crying to go out, which ended in utter exhaustion. Anæsthetics failed to quiet her, and hypodermic injections of morphia, within what I considered safe limits, had no effect whatever. I was unable to elicit anything from her family history bearing on the case. She was excitable and nervous; had borne children rapidly, prior to the beginning of her disease, two of which had died.

A few words in regard to the treatment of this disease, and I have finished. With the exception of the case just mentioned, electricity has always proved beneficial in my hands. I have used both galvanism and faradization, the latter proving quite as valuable. In two cases, in which the exophthalmos was, in one, absent, in the other slight, I used galvanism in one, and faradization in the other. The faradized patient improved most rapidly, and made a complete recovery. The other is yet under treatment, but very much improved. I have for years treated complicated goitre by faradization with unexceptionally good results. I place one pole on each lobe for five minutes, regulating the current by the courage of the patient. Then remove one to the cervical region from five to ten minutes, alternating the other on the two lobes, and finish by a general application along the spine.

In the use of galvanism I have used the same general method. In goitre without any constitutional symptons I have used the negative pole on the tumor, and passed the positive slowly up and down from the base of the skull to the seventh cervical vertebra for about five minutes; then reversing the poles, place the negative stationary over the cervical region, and stroke the positive up and down the anterior margin of the sterno-cleido-mastoid muscle.

In several cases of goitre, with irritable cough, the iodide of potassium has been valuable. Cod liver oil, iron and quinine, all are valuable in cases which are generally anæmic. When it is desirable to give iron with the vegetable bitters the tincture of the ferri citro-chloridi is good.

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For the general nervousness I have given the bromides to advantage. A remedy valuable in functional heart disturbances is spartein. I have given it in one case of exophthalmic goitre recently with very good effect. The success of the surgeon in partial extirpation of the gland, thus making short and decisive the otherwise tedious cure, will more and more relieve the physician from the care of many of these cases, but if exophthalmic goitre be of centric origin, the query must arise: How much good will come from the removal of the local manifestation of the disease?

DISCUSSION.

Dr. McCarthy, Dubuque—I would just like to say a few words on the paper just read. As far as exophthalmic goitre is concerned, I have treated one case in particular with electricity from beginning to end. I used galvanism and faradism combined without any material effect upon the tumor for about three months, and after that the patient and the general constitutional condition began to improve so that to day she is comparatively well from the goitre, but she has got well defined organic rheumatism; her disease dates back to her first attack of inflammatory rheumatism in England. So far as the potassium and digitalis is concerned, she got it on general principles. I have had four cases of goitre without any complication whatever. Treated with galvanism without anything else whatever with good results. From twelve to twenty-five applications were used in these cases, or case of exophthalmic goitre and there were, I presume, eighty applications and the neck was reduced from seventeen inches to thirteen and one-eighth inches.

Dr. Cokenower—In addition to the remarks that have been made in regard to the treatment of goitre, I wish to say that I have had splendid success with five per cent. solution of carbolic acid injected with a hypodermic syringe which contained about sixty drops, I believe. I would make the application about once a week, commencing at the median line and working to the right and left, alternately, and I have splendid success with it, as well as with the electricity.

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Dr. Greene, Webster City—I wish to add my testimony to the doctor who has just spoken, in reference to this carbolic acid. I think it was first called to my attention by Dr. Parkes, of Chicago, and I notice it is the remedy which he uses in these cases. During the past summer I have treated several cases of exophthalmic goitre by the injection of five per cent. solution in the gland, and thus far I have the first case yet to see but what has been benefitted. Some of them are more stubborn than others; but after the second or third injection, the tumor or gland will begin to disappear; will be reduced in size and I can most heartily recommend it as the treatment that has given thus far with me, universal satisfaction.

Dr. J. W. Kime—With regard to injections I would say, I have seen one case that the tumor, before the injection, was giving but very little trouble, and after the injection there was very violent inflammation; the gland very rapidly enlarged and became filled with pus, exudated, broke and discharged for about four months and the woman died of exhaustion as the result of the irritating injection.

Dr. Sill—Gentlemen, the most pungent argument I have seen, with reference to the thyroid gland or its malformation, is manifested in Toronto, Canada. Dr. Inger, a thoroughly educated veterinary surgeon, was educated there, and he came home with a sort of a religious view. They have a man appointed there whose duty it is to thoroughly examine all animals brought to the shambles for decapitation, or before they are killed for humanity to masticate, and the first thing that this examiner does is to grab the thyroid gland, and if that is wrong he puts it away. Now, if our remarkable legislature had not adjourned, we might have got that in.

NATURE'S THERMO-BAROMETER; or, THE CONDITION OF THE NASO-PHARYNX AS AN INDEX.

By Woods Hutchinson, M. D., Des Moines.

It is with considerable diffidence and hesitation that I venture to call your attention to this interesting subject in this formal manner, as I have no new facts to present or discoveries to report, but only a few brief suggestions and questions in re-

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sponse to facts perfectly familiar to all of you. In fact, this paper is only intended as a prelude to a discussion in the light of your wider and riper experience of the subjects touched upon. What connection or correspondence, if any, exists between the condition of the mucous membrane of the naso-pharynx and the state of the general system or health? The first thing that strikes us in a glance at this region is its double relationship on the one hand with the respiratory, and the other with the alimentary systems, while nowhere in the body except upon the plane of the retina are the wonderful elastic meshes of the circulatory system more nearly laid bare to our view; nor is this relationship merely the passive one of simple continuity of tissue. It is the active guardian of the fortress, with sentinel nerves and ciliæ supported by a system of distensible elastic cushions as effective in barring out respiratory intruders as any drawbridge or portcullis, and a highly trained corps of muscles capable of promptly "firing out" any would-be alimentary trespassers. In order to the intelligent performance of this function constant communication with headquarters is indispensable, and when we further consider the remarkable vicarious, excretory action which the tonsils and fauces are capable of taking on when the internal surfaces are overloaded, and the active sympathy and co-operation which clinical experience has shown the whole region to manifest with every disturbance of the bulk of its respective surfaces, I think we are safe in concluding that an inspection of the region furnishes a valuable guide, if not an absolutely reliable index, to the condition of at least the assimilative receptive half of the animal processes. The popular impression that "Put out your tongue, sir!" is the indispensible preliminary to the medical investigation of almost every case is not without a rational basis.

The role played by the fauces and nares in the exanthemata is a most interesting one, and far from being thoroughly understood. They seem to be pitched upon as the amphitheatre of fiercest combat between the marauding germs or their deadly virus, and the peaceably-disposed but sturdy and indignant fixed cells of the body. The mere fact that both gastric and respiratory disturbances are here represented, each upsetting the cell-equilibrium, so to speak, from a different standpoint, is hardly sufficient to account for the remarkable intensity of the process. It would almost seem as if those lightly-esteemed and much-persecuted bodies, the tonsils, were bravely fighting the battle of the whole organism single-handed.

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The only theory which seems to throw any fresh light upon the subject, is that advanced some months ago, suggested by the fact that the tonsils are by their structure more closely related to the lymphatic glands than to any other tissues, that they are actually breeders of leucocytes, not for replenishing the blood, but for acting as scavengers, and so to speak, sanitary police for the upper part of the alimentary canal. Would not this supposition largely account for the intense activity of which these glands are the seat, in most of the exanthemata, notably scarlet fever, in syphilis, diptheria and poisoning from sewer-gas or contaminated drinking water? in response to the demand for phagocytes, the normal secretion is first rapidly increased, then in the struggle to keep up the quantity, the quality deteriorates, imperfectly developed cells are poured out and and we say suppuration is established. Finally the vitality of the secreting cells themselves is undermined by the strain of their desperate efforts, they perish bodily and ulceration occurs. The case of diphtheria would seem to bear out this suggestion even more strongly; not only because the microscope shows the much-dreaded membrane to be composed almost entirely of leucocytes and their debris, the brave little scavenger-corpuscles, who have hurled themselves upon the attacking bacilli in such myriads as to literally smother them with their dead bodies, but also because of the rapid and serious systematic affection which almost invariably occurs whenever any considerable surface of the fauces is deprived of its protective coating, or when a region less richly or amply supplied with these corpuscular "minutemen" such as the nares or the stomach is attacked by the disease. In fact the diphtheritic membrane would seem to have not a few points of analogy to the secretion poured out by the tissues of the oyster round an intruding foreign body forming the smooth and unirritating pearl, or to the bluster of angry leucocytes round a bacillus tuberculosis which forms the essential basis of the so-called anatomical tubercle. May not a similar drama underlie the production of the typical lesion of typhoid? Peyer's patches may almost be called the tonsils of the intestines; they are even more exclusively and typically lymphatic in their character; they go through the same stages of hypersecretion, enlargement from excessive cell-multiplication, loss of vitality and ulceration, while the albumen, corpuscle salts, and debris of leucocytes which form such a prominent element of the "pea-soup" stools and upon which their peculiar consistency may be almost said to depend,

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strongly suggest the existence of some such process of scavenger-production. That these cells do exercise some sort of restraining influence upon the disease germs is made highly probable by the fact reported by several observers that the fresh stools are almost wholly innocuous and do not develop infectious properties until ample time has elapsed for all the phagocytes to have perished from exposure to the lower temperature of the outside air; a temperature which, unfortunately, has no unfavorable effect upon the bacilli.

The part played by the lining membrane of the naso-pharynx in that pathogenic "root of all evil," a "bad cold," is also one of great interest and importance. Whether the "cold" be the result of wet feet, cold hands, or a draught on the back of the neck, in nine cases out of ten the nares and fauces have to pay the fiddler and become the seat of the intensest morbid activity. The compensatory vascular congestion which affects the whole internal surface of the body whenever marked contraction of the superficial vessels of the external surface occurs would partly account for this, but only partly. It is no mere mechanical congestion, but genuiue inflammation accompanied by excessive secretion and going on to suppuration if the irritation is sufficiently intense. I think one can hardly look upon the intensely irritating properties of the nasal discharge in acute coryza, the promptness with which it excoriates nostril and lip, and its yellow color as shown in the stains it leaves upon the handkerchief, without being inclined to regard it as, to some extent at least, an excrementitious product, which supposition is supported by the discovery in it of urea and other nitrogenous extractions and by its reputed infective properties. When we farther consider the almost invariable occurrence of digestive disturbances and the not infrequent appearance of diarrhœas, or those uric-acid storms popularly known as "bilious attacks" as symptoms or complications of a "severe cold," does it not seem probable that an attempt of vicarious excretory action on the part of the whole internal surface of the body is present as a factor in the process?

Such then being the close interdependence and important relations existing between the functions of the naso-pharynx and the general system, would it not be reasonable to carefully investigate how far each morbid condition of these parts is symptomatic of a general disturbance of equilibrium or nutritions before proceeding to dub it any form of "catarrh" or many-syllabled "itis," and attack it by "special" or local treat-

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ment? And yet how little attention do we find paid to this need of the subject in our special text-books! I think it would be safe to say that three-fourths of the cases of pharyngitis which present themselves to a specialist, are dependent upon some derangement of either the first or second digestion, and the same proportion of nasal troubles upon a general lowering of vital tone in all the tissues, the "neurasthenia" of Beard. Yet scarcely more than a page or two or a scattered paragraph here and there is devoted to this most important view of the subject. Instead of being looked upon as a page in the book of diagnosis and general symptoms, diseases of the nose and throat, are, I think, far too exclusively ticketed and discussed as distinct, separate entities with an existence and pathology almost apart from that of the general system. If we were to look upon the pharynx as we now look upon the tongue, we should find it an almost equally reliable, and even more delicate index of the condition of the alimentary canal, and if we based our treatment upon the morbid conditions presenting themselves upon the same principle, our results would be far more satisfactory and permanent. No one has so far suggested clearing a coated tongue with the galvano-cautery or invented a curette for that useful purpose, and yet month after month the much-enduring pharynx is cauterized and swabbed and sprayed with a sublime disregard of the fact that it is in nine cases out of ten merely a bulletin board of the state of the whole interior. Viewing them from this standpoint the eye soon learns to distinguish the brick-red congestion of acid dyspepsia, ("alcohol-throat," "coffee-throat") the dull purplish crimson of chronic constipation or hepatic torpor, the deep garnet of the lithæmic diathesis, whether "gouty" or "rheumatic", the flabby "raw-ham" color and frothy mucus of anæmia or the blanched palate and palely "granular" pharynx of phthisis and to refer them to their underlying causes, and when this has been done it is surprising how few cases of "idiopathic" pharyngitis are left. If I were obliged to give up either local applications or systematic treatment in the management of pharyngitis, I should unhesitatingly drop local applications overboard. The connection between morbid conditions of the nasal mucous membrane and states of the general system, is less constant and much more obscure. Yet I have been greatly struck with the frequency with which our favorite national disease and popular pathological luxury, "catarrh" (congestive obstructive rhinitis), is associated with what I hardly know how to describe

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other than as a general loss or lowering of tone on the part of all the tissues, as evidenced by a faded looking complexion, spare form and features from lack of adipose, flabby muscles, a digestion which is either openly rebellious or has to be treated with respectful consideration, atonic bowels, frequent neuralgic attacks and abnormal susceptibility to fatigue and worry. I believe I have never seen a case of functional obstructive rhinitis in which some or all of these symptoms were not present. In fact I should be strongly inclined to regard a large proportion of our cases of nasal catarrh as simply the local expression of a general lack of tone on the part of the mucous membrane, and erectile tissue covering the turbinated bones with its consequent engorgement, hypersecretion and swelling. The frequency with which these troubles are met in this country may be partially explained by the fact that the American race is undergoing marked and rapid changes in adopting itself to a new and trying environment, and that its tissues are consequently in a highly unstable and irritable condition. The most potent influence in the new environment is probably that of the climate, and hence the parts of the body most directly exposed to or affected by its changes, might naturally be expected to suffer most noticeably. But that this is not the only influence at work, is readily seen from the fact familiar to all of us, that the classes who present the largest proportion of nasal troubles are not those most exposed by occupation to climatic changes, such as farmers and day-laborers; but on the contrary, those least exposed to out door influences, such as merchants, clerks and their families, and town-dwellers generally. What then is the additional predisposing influence rendering the organism thus invulnerable? I answer, lack of sunlight and exercise and consequent imperfect oxidation and defective nutrition, and appeal to your personal experiences for support. Do we not find our largest proportion and most aggravated cases among those who are the most closely confined and least energetic in their habits, especially among women and children? If nasal catarrh were treated as merely a prominent symptom of "sunshine-hunger," the popular belief in its "incurability" would be seriously shaken. In fact I am strongly inclined to regard catarrh as really a valuable danger signal, which will attract the attention of the most indifferent. Many of our patients will submit with almost a pathetic resignation to any or all of the other symptoms of lowered vitality; but let them once discover the fact that they have "catarrh" and they will move heaven

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and earth to get rid of it, and thus give us an opportunity to build up the entire system by a vigorous course of out-door exercise, sun baths, cold sponging and rubbing and rational diet. People can be literally "led by the nose" to live more vigorous, more rational lives, when they can neither be driven nor frightened in any other way.

Those of us who have tried forcing our catarrhal, neuralgic, dyspeptic patients into the open air for at least two sunshiny hours daily, insisting with Spartan firmness upon their sponging and splashing the whole upper half of the body with cold water every morning, followed by a vigorous rubbing with the hand or a rough towel, at the same time helping nature to get rid of the results of past indiscretions by digestives and appropriate local applications, which latter serve largely the useful purpose of keeping up the patient's interest, and serving, so to speak, as a string upon which to hang the rest of the treatment, will, I think, have but little doubt of the correctness of the symptomatic theory and be perfectly willing to stake its truth upon the result of similar experiment by others.

The greatest value and highest dignity of the specialty of of rhinology is as a handmaid to general medicine and aid to diagnosis, especially in that it furnishes our promptest and most delicate means of appreciating that otherwise almost indefensible departure from the normal vigor and lowering of resistant power on the part of the injured individual citizens of that republic we call the human body, which is the invariable negative precedent of all positive morbid action.

DISCUSSION.

Dr. Hill, Independence—I presume the reason for no remarks on this paper is because no one has any fault to find with it. One sitting near me has said it was an excellent paper and most beautifully expressed. I agree with such a statement concerning it. and I think most of his observations made are in accordance with the facts. It is well for us to be reminded that many of the appearances we see are simply symptoms of constitutional disease or infirmities and so to be regarded, and not treated solely as of a local sort.

Dr. W. H. Kinnier—No man who has paid any attention to the condition of the parts on which the Doctor has spoken but what must be convinced of the value of the Doctor's ob-

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servations. No man who has had anything to do with the nasal mucous membrane can help seeing very readily or very plainly in almost every case of catarrh that comes before him, that there is a low condition of the whole system. In other words, that there is an impoverished condition of the system; there is a low grade of vitality. We find the upper naso-palatine membrane in low grades of vitality because those parts are most exposed and the lowered condition of the system have rendered them vulnerable, and consequently we see it very plainly, just as we see a neurasthenic or enfeebled nervous condition. You always find in it some mucous surface affected that shows local trouble in those conditions. I think one of the first things that can be done or ought to be considered is, how shall we build this patient up; how shall we restore this impaired nutrition? I think to aid nutrition as much as possible has come to be one of the most important parts of treatment of this condition in every consideration. Still there are some things come in. We see one thing illustrated there: we see conditions in the nasal pharynx that exhibit the condition of this impaired nutrition. We must attack this condition openly, or else the result reacts upon the case and the patient is kept in this condition by it. I do not know that I have made myself perfectly clear. For instance, we have hypertrophy of the nasal cavities and the patient is deprived of a good supply of oxygen and respiration is impeded. Now, so long as that condition prevails, just so long that patient is going to suffer, and in this case the result reacts upon the case, but there is one thing we must consider, and that is the knowledge of it in its infancy. I think a few more years will bring to light many things which we do not now apprehend. Certainly great advancement has been made in the last decade. We have seen rapid strides made, and we can only hope that the future has as much in store as the past has developed in this respect.

Dr. Hutchins, Hampton, Iowa—I would like to say a few words in the way of discussing this very able paper that is now before the house. I am a general practitioner, and wish to say

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a word to those who come in contact with the diseases mentioned and to narrate a little of my experience with their treatment. We have been, as general practitioners, too ready to transfer these cases to specialists without a fair trial on our own part in the way of relief and cure. Believing this to be true, I some few months ago began a manner of treatment which I find has furnished my patients relief and has caused me to think that I have been of as much service to them in that way as I have been in any other. I find that persons suffering from catarrh, as has been suggested, are very loth to approach a physician for treatment unless they have some special end in view. And if they are informed that they have nasal catarrh and caused to think that way, that the relief of that is the peculiar object of the physician, they will readily subscribe to anything that he chooses to give them, or will comply with his suggestions in regard to treatment, and I find that there is a treatment which the busy practitioner can use with success, in a moderate degree, at least. I will say that I use the spray treatment—nothing particularly new, perhaps—all are familiar with it, more or less, but I know that all do not use it. I have a Sass' machine; the form of it and the kind you are familiar with, and I use that with patients in the town every day, and spray of different kinds, and take frequently of listerine as a base followed by liquid cosmoline, and it certainly furnishes them great relief locally, while I give them medicine constitutionally, and both together cause the patient to be well satisfied and the consideration of remuneration to the physician for his trouble is no small item in this matter under discussion. I would advise all general practitioners who have never sought to treat catarrh locally in that way to try the experiment, and it will be satisfactory to all concerned. If they find cases which require some surgery they can send them to some specialist, and he will help us out and thus relieve our patients and help ourselves.

Dr. E. H. Hazen—In regard to this paper which Dr. Hutchinson has read, there is a good deal to be considered about

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it but I have an idea he is going too far. I anticipate it will be a very difficult thing to diagnose constitutional troubles by the appearance of the nose or the throat. There are a great many constitutional troubles that are exhibited in the throat; no doubt about that; stomach troubles and lung troubles, etc. But, we have, in this climate, a great deal of mucous membrane troubles; that is disease of the mucous membrane of the air passages, and to tell the condition of a constitutional trouble far away from the nose, it seems to me, is a very difficult thing. Now, how is the Doctor going to tell, in the morning —give a diagnosis, from that throat—when perhaps that case has snored for eight hours the night before. There is a condition there that is abnormal. Now, this nose breathing or mouth breathing, is a very deleterious thing and causes changes in the throat, and I think it is not advocated sufficiently. Now, how is the Doctor going to tell the difference between that abnormal condition of that patient that has snored eight hours, and the constitutional trouble?

Dr. Chase, Waterloo—There is one point that has not been touched upon which I would like to mention in the way of protest. I was in hopes the reader of the paper might pass upon it, and that to admit it. I believe he does admit from what he says generally in his paper, that it is the disposition to use the electro-cautery upon the nasal passages. I think there is some general tendency to go crazy about that, like there was to use the celebrated gaseous Bourgeon's treatment. I remember at an association of this body that the instrument makers who were represented at that meeting, were telling those who requested them to give them prices, that the orders were more than three months ahead on those instruments, and that they could not fill them. I don't believe there are very many gentlemen here to-day who use them or use that system of treatment. I believe much damage is being done by the use of that kind of treatment, I heartily endorse the paper read, and can state two cases that have come under my own observation. I feel confident that great help was done them by the use of cod liver

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oil, out-door exercise and close attention to the laws of health. I am very sure too much attention is given to local treatment of the nasal passages, and an irritation and inflammation is induced, whereas, if we would allow nature to assert herself and attend to those other things, and, as Dr. Hutchinson has said, look upon the symptoms of the throat and nasal passages as symptoms of a disordered condition of the alimentary canal, perhaps, or the system generally, and treated constitutionally, I believe we can cure catarrh as general practitioners.

Dr. W. H. Kinnier—I feel as though I was sat down on in what Dr. Chase says. Now I believe in the use of that instrument; I am not a lover of the galvano-cautery; never was; but at the same time the galvano-cautery furnishes a means of therapeutics that nothing else does in some cases. I believe that we can use chromic acid in the great majority of cases, and that the chemical is fully as reliable as the actual cautery, but, at the same time, I don't think there is anything that will furnish us the same means with the same amount of good to the patient that the galvano-cautery does. Now, you can take a case of hypertrophy, where the patient is unable to breathe through his nose, and there is nothing in the world, except one other thing, that has such an effect on the patient's mental condition; the thought that he is affected by it; thinks he is going to die with phthisis, or this or that; thinks his catarrh is going to produce all the troubles imaginable. Now, the fact is, all you can do is to quiet his mind, and make him think you're going to do a great deal for him. Now, you have nothing to do but to use the nasal respirator. My idea is that too much has been done; that mischief has been accomplished where the galvano-cautery has been used indiscriminately; large furrows have been plowed in the soft tissues, and soon we find a great wide nostril and the function of the nose is no longer accomplished, and it is no better than mouth breathing. I concede all this, but at the same time, I do not think anything is as useless, and nothing is as sterile, and does as much mischief as the nasal spray. I think the cold nasal spray is the most useless and

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senseless thing any practitioner ever had in his office, and it does an immense sight of injury. I don't think we can resort to anything if we have hypertrophy nasal cavities; the patient comes in, and we resort to nasal spray; I don't care what astringent you use, or what the local stimulant is, you excite for a short time hyperæmia, and only add to the trouble that is already there, and I don't know that I ever saw a case where the nasal spray is used, but what positive injury was produced. I believe that it is more injurious, on the whole, than the galvano-cautery is, unless the cautery is carried to great excess. Now I believe the cautery is useful, and I don't think it ought to be stamped as an unworthy means. I think the impression given here about the galvano-cautery is wrong. A man can eat johnny cake enough to kill himself, and I think that the impression about the galvano-cautery has been caused by its improper use. That it has done mischief, if in efficient hands, there is no question, but I don't believe it will do mischief if used as stated to-day.

Dr. Hobson—I would like to say a word in favor of the nasal spray; of vaseline especially. If the Doctor ever had catarrh and had treatment with the nasal spray of vaseline I think he would change his opinion. I have had it tried on myself and have tried it on other patients, and without a single exception I have found they said their head felt clear and that they felt good, and for the next few hours they could rest and breathe comfortably; and I think if we have an irritated condition of the nasal passage and we wish to heal it, we would use the same treatment to some extent that we would on any other wound, and if we have a raw surface we find nothing which will soften the parts and heal it nicer than to keep it soft with vaseline, and I think the same treatment is rational and will work well in catarrh.

Dr. J. W. Kime, Ft. Dodge—I think Dr. Kinnier has said many things that are good. But if I were obliged to give up the nasal spray or the cautery, I would give up the nasal spray. I can produce very much better results with the galvano-cautery

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than with the nasal spray. There are cases which cannot be treated, I think, except by the use of the galvano-cautery. It is the improper use of the cautery that should be condemned, and not its proper application. Where severe hypertrophy exists, one or two cauterizations in that nostril would give relief, while the spray very often irritates and does much harm.

Dr. G. F. Jenkins—I was very much interested in the Doctor's paper because I think it is a timely one. I believe the profession is swinging a little too far in the treatment for nasal catarrh. There is no question but what local treatment is of very great value. I hold that the cautery of the galvanic battery is good, and I hold that the spray is good as a part of the treatment, but I believe that the profession has gone too far away from constitutional treatment, and I think the Doctor's paper, in which I was very much interested, was very timely. Of course, like another doctor stated who got up here, I think we might expect generally to find innutrition; yet I have had catarrh for a great many years and do not look like I had catarrh, but I am sure there are very many such cases, and I think treatment constitutionally is of very great importance, not only in the relief, but the cure, and I want to add my testimony to what he stated in this paper.

Dr. Woods Hutchison—Perhaps it is hardly necessary for me to state my position in this matter, yet in view of some of the statements made it is necessary to do so. I was not, of course, discussing the question of the whole view. I believe as firmly as anyone in all these methods of treatment, even to the much-abused galvano-cautery and the nasal spray. At the same time I was simply calling attention to the fact of what I believe is a very important element in the treatment, and which is generally overlooked. I think that all these things in their place have their use, but without this other, they would frequently fail, while in connection with it they would get valuable and good results.

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INTUBATION OF THE LARYNX.

By Dr. W. Smouse, Des Moines.

In presenting you this brief history of a few cases of intubation of the larnyx, I do so on account of the great relief it gives these little sufferers in that most distressing symptom, not only to the child, but parents and physician. Intubation of the larnyx means inserting a tube through the mouth into the larnyx. The tubes, as you no doubt are somewhat familiar with, are arranged in sets for different ages, and have been modified and improved very much since their first use by Dr. O'Dwyer in 1885, so that almost five years have elapsed since the publication of this method, and cuts of the instrument shown, and we find the method steadily growing in favor as it is being better understood, and many of the objectionable features are being removed.

The operation has no doubt come to stay, and meets with but little of the objection in this country that it met even two years ago, although our friends in Europe, especially in Germany, are discussing it with about the same objection that it met here three years ago. However, it is not the intention of this brief paper to go into the details of the history of the operation, as a number of very able and valuable papers have appeared during the past year, among them one by Dr. Joseph O'Dwyer on "Intubation in Chronic Stenosis of the Larnyx;" one by Dr. Geo. W. Gay, of Boston, on "The Comparative Merits of Tracheotomy and Intubation in the Treatment of Croup." Dr. Gay says that "the stage in its career has been reached where there can be no doubt that it relieves dyspnœa; that it saves life; that it is a safe operation to do, and in the majority of instances it is more easily performed than tracheotomy."

It seems to me that there can be but little comparison between the two operations, intubation and tracheotomy, so far as ease is concerned, as there is no anæsthetic needed in intubation, and only in rare cases does it require more than a few seconds to introduce the tube, which can be done about as easily during the night, when it is most needed; and you are all no doubt familiar with some difficult tracheotomy you were obliged to perform, or witness some struggling child which was half anæsthetized. You were obliged to work with a dim lamp or candle, in a close, hot room prepared for the operation. Then I find that many parents do not object to the tube, as there is no cutting, the one thing most dreaded by them.

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I do not intend you shall understand that intubation shall entirely take the place of tracheotomy. This it cannot do, as its field is limited. It can, and will, only relieve the stenosis of the larynx, and then only when there is no loose membrane in the trachea. When the membrane has extended below the larynx or far down into the trachea, it is better to perform tracheotomy, and even when the membrane has been confined to the larynx, and intubation has been done and the membrane extends lower down within a day or two, it is better to abandon the tube and rely upon tracheotomy. Intubation is particularly advisable in croup after measles, as tracheotomy in this condition is always fatal.

The records now show over two thousand cases of intubation in membranous laryngitis, and a careful study of the analysis of these shows a great advantage in very young children; directly opposite the statistics of treacheotomy.

The results show thus far almost the same per centage in both operations so far as all cases go. Five hundred and fourteen cases reported in May, 1887, by Dr. E. Fletcher Ingalls, to the American Laryngolical Association, showed 26.07 per cent of recoveries. In January, 1888, Dr. O'Dwyer reported 250 cases with a per centage of recoveries of 27.33. In May, 1888, Dr. Waxham gave an analysis at the American Medical Association of 1,072 cases which he collected from different sources, with a per centage of recoveries of 26.77. Dr. Waxham's latest report shows 180 cases with 31 per cent recoveries. Dr. Agnew, in 1878, reported 11,696 cases of tracheotomy with 26¼ per cent successes. Monte, of Vienna, published over 12,000 cases, with twenty-six and eight-tenths of recoveries. In 1887 Lovet and Monroe recorded 21,853 operations of tracheotomy with a recovery of 28 per cent. You will see from these statistics that the relative recoveries after the two operations differ but very little. But you must remember that intubation is done in many cases now where tracheotomy would not be deemed advisable, on account of the exhausted and weakened condition; the tube simply being introduced to give temporary relief and render the death of the little sufferers more easy and to relieve the parents and friends of the distress of seeing the child choke to death, as they term it. The operation of intubation is not entirely devoid of danger, as the tube may be crowded into the tissues outside the trachea when these tissues are soft and flaccid from membranous deposits around or near them.

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Statistics have shown it is particularly advantageous to very young children. It is also advantageous in the country where it is impossible to see your patient at short notice, as the tube used in these cases can always be used small enough, so if there should be any plugging up from membrane or any cause it will be coughed up.

Case No. 1. Chas. D., stout, healthy looking Swede boy 8 years old. Patient of Dr. J. T. Priestley's. Suffered for three days, a greater portion of the time with severe dysnœa, before calling the doctor. When the throat was examined a white patch of membrane covered the lower half right tonsil and a portion of posterior wall of pharynx behind tonsil; dysnœa very great. Thinking this might be due to spasm of the tissue in larynx, and the boy being very stout, an emetic was ordered, which gave slight relief for half an hour. The dysnœa continued very severe for a number of hours, when the doctor asked me to introduce a tube, which I did; but being the six to eight year old tube, and the patient a large boy for his age, the tube remained but a few moments until it was coughed up, when a larger one was introduced, and relief immediately followed. Later in the day this tube was coughed up, and as but little difficulty of breathing followed, the tube was not used any more, the boy making a good recovery. I think this case would probably have recovered without using the tube, although at the time of using the tube, and for three days, the dysnœa had been very severe.

Case No. 2. April 24, 1889. A beautiful, bright five year old girl patient of Dr. Bice, of De Soto, Iowa, had suffered forty-eight hours from most severe difficulty in breathing. When I saw the child she was cyanosed, the lips were blue, the ends of the fingers purple, and the swollen veins of neck and face stood out full and looked purple. The little sufferer was almost exhausted with its hours of ceaseless struggle to get its breath. Throwing itself from one side of the bed to the other, bathed in perspiration, a respiration of 65, temperature 103, and pulse 130, very feeble and occasionally intermittant. But a few moments' time were lost, after arriving in the house, until a suitable tube was introduced, the child having first been wrapped in a sheet and placed upon its father's lap, with arms pinioned inside the sheet so it could not interfere with the operation. A loop of fine thread is attached to a hole in the upper end of the tube so as to facilitate its removal in case it is necessary, as it can be easier removed by this thread than by

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the extractor. In this case the child coughed for a few moments and than began to breath easier. The thread was carried out one side of the mouth and was being held near the ear by Dr. B., when the child loosened one of its hands and grabbed the thread, throwing the tube across the room. The tube having been introduced again, the thread was cut before the hands were liberated. In ten minutes the child was breathing softly; the normal color was returning to its lips and face. It was lying on its side in bed and swallowed some water without coughing. The child's throat showed a patch of white membrane the size of a soup bean. An examination of the lungs showed mucus rales over back portion of both. The child continued to breath easy during the day and passed a very quiet night and part of the next day, until the respiration began to be more rapid. The bronchitis extending into the smaller air cells, and another twenty-four hours ended its suffering in death. Dr. B. had the hardest part of the task so far as the intubation was concerned, in removing the tube after death.

Case No. 3. Fleshy, stout three-year-old girl, patient of Dr. J. T. Priestly, from malignant attack of diphtheria. The whole fauces covered with heavy membrane, covering completely both tonsils, the soft palate and extending into the post-nasal cavity, was attacked with dysnœa from the first, which had continued for forty-eight hours, growing steadily worse. The tube was introduced, which gave immediate relief to that most distressing condition we are called upon to witness so frequently. Eighteen hours afterwards the tube was coughed up and the dysnœa soon returned, necessitating its introduction again, which it continued to retain for two days, when it died from diphtheritic poisoning.

Case No. 4 was a five-year-old girl in the same family suffering from the same malignant form of diphtheria, and attacked twenty-four hours after its younger sister, in the same manner with the severe laryngeal form from the start. This child was intubated on the second day after the attack and died twenty-four hours afterwards from a combination of blood-poisoning from the diphtheria and acute bronchitis. Both these children were attacked with severe vomiting and high fever from the first, and were in the center of a district of one of the most malignant types of diphtheria that has probably ever visited our city, no cases, so far as I have been able to learn, having recovered where the membrane was so extensive from the first, even when the larynx was not involved.

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CASE NO. 5:—An eight year old Swede boy, patient of Dr C. E. Currie, had been suffering four days with severe dysnœa most of the time before the doctor was called, when he found the boy in a dying condition and feared the boy could not live through the operation. There was only a slight amount of membrane in the throat and had evidently not been much from the first, as there was little or no swelling or induration of the cervical glands. The tube was introduced here without any difficulty, and gave immediate relief, although the boy was suffering already from severe capillary bronchitis which terminated fatally in thirty-six hours.

DISCUSSION.

DR. E. F. CLAPP:—I think this is a very timely paper and the thanks of the society are due to Dr. Smouse for the paper which he has read on Intubation. So far as the operation is concerned, they are not interchangeable; they are not performed for the same purpose. The distinction between tracheotomy and tubotomy are lost sight of, perhaps by a great many who have not given it careful consideration. There is this advantage which intubation has over tracheotomy and that is that you can obtain the permission of the family to intube where you cannot obtain permission to perform the operation of tracheotomy. Again, I am led to believe that without much experience the operation of intubation is not a difficult one. Most of you, at least, have sufficient skill to stick your finger down a child's throat, if the child does not get the advantage of you and throw its teeth upon the finger before it reaches the epiglottis. That is, in the first stage when you have the child well tied or wound in a sheet or blanket, or something of that kind, and in the hands of a trustworthy person to hold the child and keep it from struggling. Having thrust your finger in the throat of the child you immediately follow the curve of the fauces with the tube and when it reaches the end of the finger, drop the tube and it is in the trachea. It is not a difficult operation. The removal of the tube is somewhat more difficult, but can be performed by anyone who has sufficient courage and a sufficient amount of medical knowledge. In intubation, in a

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certain number of cases, I think the per cent. is fair and that it promises a great deal for the future. At the present time but few individuals have pretended to intubate. I apprehend the difficulty in intubation in the future is largely in the expense produced necessary for the purpose of intubing and this can certainly be reduced one half without any inconvenience to the instrument makers and allow them a handsome per cent. upon the investment. It is a difficult matter to obtain the consent, as was mentioned by the paper, of a parent for the purpose of cutting a child's throat, as they usually put it. They will permit you to put a swab, your finger, a cork screw, or a probang, or anything else in the little sufferer's throat for the purpose of examination or relieving its pain, but the moment you intimate that a knife is necessary, the objection commences, as I have said before. While I believe that in the two operations, taking similar cases of tracheotomy and intubation, the per centage of cures are about the same, or the mortality is about the same, there is this, that you can get one hundred per cent. easier to consent to intubation than you can procure the consent of parents to five per cent. of tracheotomy.

Dr. E. H. King: I am glad this subject has been brought before the society, because I believe that intubation is a subject that should be brought before the whole people, because I believe it is a blessing to humanity and as well remarked by Dr. Smouse in his paper, it is an operation that has come to stay. In a conversation with Dr. Ingalls, within the past two weeks, he told me that in three hundred cases in his practice, including his experimental cases, his recoveries were thirty-five per cent. That during the year 1889 his recoveries were forty-six per cent. A late report from Dr. O'Dwyer, at the Children's Hospital, in twenty-seven cases there, thirteen recovered, almost forty-nine per cent. Now, I take issue of my friend in his statement which he made in regard to intubation not being a difficult operation; I advise him to try it. It may not be difficult for him from his anatomical knowledge, but I apprehend a great many will find it a pretty difficult operation.

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I will state that at my first attempt on a living subject, I made a complete failure. When studying, I used the cadaver and used it until I thought I was quite expert. After a few weeks I was called suddenly to a case of diphtheria of a child eight years of age, of the most malignant type. The child was gasping for breath and was at the point of suffocation. I hastily put around a sheet to hold the child's hands and had the father hold her while I endeavored to intube her, and failed, and simply meddled with and disturbed an immense amount of membrane that was there, and in endeavoring to withdraw it my finger was covered with this exudation which covered the child's lips. The child's father was an Irishman, and I offered to try it again and he said, "No, you shan't do it again!" Very soon the child was dead. I began to study the matter over. It was not long after that until I had another case, a little child eight years of age, that had exudative laryngitis. No symptoms of the malignant diphtheria; the exudations was wholly in the larynges; no tumefaction of the glands; no fever, but just a croupous cough getting worse; the child became cyanosed, gasping for breath and on the point of suffocation. I endeavored to intube it. I remembered my anatomical points. As I passed my finger down past the epiglottis in the living throat it felt very different from what it does in a non-receding epiglottis of a dead child. I kept it in mind that when you touch the epiglottis of a living child, it shuts down like a teapot lid. I kept that in mind and I succeeded in getting the tube in the epiglottis, but it did not drop down as stated, but you have got to get it in the larynges properly and not in the pharnyx as you probably will if you do not have experience. There is a spasmodic cough and it exfoliates some mucous; you are satisfied the tube is in place and when satisfied such is the case you remove your finger from the throat; the child coughs easily and soon coughs it up with lots of mucous. This child laid down and slept three hours soundly, which it had not done for forty-eight hours. In the course of six hours cyanosis returned and I again introduced the tube and it was again

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coughed up, covered with a thick membrane. This gave the child relief for a while. In the course of twelve hours longer, the urgency was so great it had ceased breathing, was rigid and black in the face as at the beginning of the intubing. In the start the child's breathing improved and it became conscious, though for a short time. It restored its breathing and rendered it comfortable until it gradually passed away in an easy manner and the father said "That was worth everything, Doctor, to give that child that relief."

REPORT ON SURGERY.

By E. F. Clapp, M. D., Iowa City.

In taking a retrospective view of the past year, we have much to congratulate ourselves upon. While the progress may not have been as great as in some previous years, the deeds as grand, the acts as brilliant, yet excellent work has been accomplished, many doubts swept aside, floods of light let in upon dark places, certainty has taken the place of doubt and speculation, and in the march of progress our grasp is firmer and our tread stronger.

The hold that antiseptic surgery has upon the profession is growing. No one now doubts that it has come to stay. This must be apparent to anyone who has given the subject a thought.

As an eminent surgeon has remarked: "The question is no longer as to the acceptance of the system, but as to the best means to be used in carrying it out." This must be obvious from the most superficial survey of the literature of the past year.

The widening of operative possibilities is due in whole or in part to the employment of antiseptics. So much is this the case that surgical ideas of the past that were supposed to be well established must be greatly modified or thrust aside as useless in the present light of antiseptic surgery. There are some who pretend to ignore antiseptics in surgical dressings, and proclaim their unbelief in the system, but the number is becoming beautifully less, and soon it will require a careful search to find one so criminally ignorant. In fact, if the time is not already here, it must soon follow that the surgeon who neglects to employ the most careful antiseptic details, so far as

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known, in all surgical practice, will be considered not only recklessly careless, but guilty of criminal negligence, held amenable to law.

To be up with the times the surgeon of to-day must study in connection with anatomy and surgery, bacteriology; must look upon the art and science of surgery through microbial glasses.

The assertion that as good if not better results are obtained by those who do not employ the antiseptic system, is not sustained. That "surgical clearness" is all that is meant by antiseptic surgery, we may deny.

To meet the requirements in and about wounds, I can do no better than to quote Dr. Packard, of Philadelphia: "Sterilize everything about a wound, and bar the access of germs, etc., which would cause fermentation and sepsis, supplemented by antiseptics, with the certainty of a good result."

While sterilization of the air in rooms used for surgical operations and for hospitals for the wounded has been recommended and may possess merit, yet it is not considered practically necessary for success. Perfect asepsis is an ideal conception.

While various methods have been recommended for the purpose of sterilizing instruments, probably no method yet employed is equal to heat. Ponpinell prefers dry heat by means of an oven, the temperature carried from 350 to 400 degrees F., while Von Bergmann and Renard prefer, both for instruments and dressings, super-heated steam under pressure. The articles are placed in wire baskets, and the baskets put into boilers, the temperature of moist heat being less than dry, 230 F. answering the purpose; time required, fifteen minutes.

Time prevents more than a hasty glance at the numerous suggestions made to accomplish success in aseptic and antiseptic surgery, such as the sterilization of the air of the room used for an operation, a sterilized cabinet for patient and operator together, with the assistance that must come in contact with the patient to be operated upon, the use of certain disinfective products to be disseminated throughout the room by use of a blower, etc., etc.

Germicides and disinfectants have multiplied during the past year; many new articles have been added to the already long list. To enumerate this list in full would be productive of little good and require much time. Of those in which we place most confidence we may still head the list with the mer-

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curial preparations, of which the bi-chloride still holds the place of honor, as a germicide pure and simple. The following table is presented, the greatest potency heading the list and diminishing in the descending scale:

1. Peroxide of hydrogen.
2. Corrosive sublimate.
3. Sulphurous acid.
4. Boroglyceride.
5. Chloride of lime.
6. Bisulphate of lime.
7. Chlorine.
8. Iodine and bromine.
9. Chloride of zinc.
10. Menthol.
11. Thymol.
12. Creosote.
13. Salicylic acid.
14. Eucalyptol.
15. Carbolic acid.
16. Chloral hydrate.
17. Permanganate of potash.

And so on through a list of sixty articles, ending with distillation of witch hazel. We now find that different germicides have, so to speak, more or less affinity for special microbes.

A new antiseptic dressing in the double cyanide of mercury and zinc was recommended by Sir Joseph Lister in his address delivered Nov. 4, 1889, before the London Medical Society. Lister states that it takes 3,000 parts of blood serum to dissolve it. Gauze impregnated with a 5 per cent. solution permits blood serum to soak through it without dissolving out the salt. This preparation is praised more on account of its inhibitory power than as a germicide, i. e., it has the greater force to prevent the admission of germs to a wound than power to destroy when present. Its claim then to the confidence of the profession may be thus briefly summarized:

1st. That it does not dissolve readily and thus lose its protecting power by being washed away by the discharge from the wound.

2d. It is a non-irritant.

3d. Inhibitory and germicide.

4th. Can be used in any form, powder or solution.

While a substance which is perfect in every respect as an antiseptic and objectionable in no particular is undoubtedly desirable, yet I apprehend as the number of articles at our command from which to choose is rather numerous, the great consideration at present is to know just how, when and where to use the various articles already at our disposal; and the individual who makes this the special study of his life will find that he has not lived in vain.

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We are somewhat startled, as the use of cat-gut has very much increased in use both for ligatures and sutures by the announcement of Kocher of Berne, who asserts that while this material is employed asepsis cannot be secured by any known method, in support of which he cites thirty-one cases, in twenty two of which the wounds were infected.

This report being discussed by the Society of Surgeons of Paris, the opinion was expressed that the objection should lie against the mode of preparation, and not against the material itself, and Terrier thought the surgeons present should declare together against the theory advocated by Kocher.

We believe that cat-gut will eventually largely supplant the use of all other materials both for ligatures and sutures (as it should now in all operations connected with the brain and bladder), providing that a perfect method of preparing the same is found; the possibility of determining the time when the material shall be absorbed being its chief recommendation.

The question of drainage like the disturbing spirit of Banquo "will not down," and continues to fret the surgeon who would be on the safe side, and the whole matter is left to the judgment of the attending surgeon in each individual case, it being impossible to formulate rules to meet all demands, and the same may be said of the material employed to effect this end.

Personally I would advise that drainage be employed in all cases where there is dead space in which blood serum may col lect and form a culture for microbes, with the exception of the abdomen, and here too, the drainage tube is often the means of saving the life of your patient. Dry dressings and the drain age tube should be our motto.

When primary union is expected, arrangement for its early withdrawal without disturbing the dressing should be made. In most cases the drainage tube can be safely dispensed with after a period varying from thirty-six to forty-eight hours.

SURGICAL DRESSINGS.

In the line of articles used in dressing wounds, the list is a long one; some new, some novel, and some resurrected from the long ago, and shrouded in a new name ask the confidence of the profession.

Muskeg moss, a plant indigenous to the north-west, is said to possess antiseptic properties; a ready absorbent, superior to absorbent cotton at one twenty-fourth of the cost. To pre-

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pare it for use, soak in one two-thousandth solution sublimate. Oil of turpentine mixed with linseed oil is one of the old domestic remedies used in the South years ago by our colored brethren on the old plantation.

Photoxylon, a substitute for collodion, is made by treating wood pulp with a mixture of nitrous and sulphuric acid with nitrate of potassium, forming a nitro-cellulose. Three per cent. of this dissolved in equal parts of alcohol and sulphuric aether makes a superior collodion useful in dressing small wounds.

Hydro-naphthol is said to be one of all the Naphthols worthy of confidence as a surgical dressing—non poisonous.

Other articles for dressing wounds include turpentine and camphor, ʒj to ℥ij of the latter; tar and iodoform; oxy-cyanide of mercury, etc. But why multiply the number? In thus summing up, briefly as we have, the various materials used, we would not have it understood that the subject is by any means exhausted; neither time nor space permits of more than a glance at the numerous articles that have been urged upon our notice during the past twelve months, begging our approval.

Under the head of amputations we notice sixty-two major amputations upon sixty patients, with fifty-eight recoveries; the cause of death not stated, but in one patient when a double amputation had been made (of thigh and leg), death took place in two hours; in one of the other four deaths a statement is made that gangrene existed at time of operation.

To prevent hemorrage in amputation at the shoulder, Koch suggests the dividing of the clavicle at inner border of outer third, and after bandaging arm, passing a strong rubber tube beneath the axilla and around the shoulder and through the point of division of the clavicle, before knotting the tube four loops are fastened, corresponding to the positions of the pectoralis, latissimus dorsi, clavicle and spine of the scapula; the rubber tube is now tightly drawn and tied; the loops passed to an assistant, who is instructed to draw it towards the body to keep it from slipping.

We cannot see why this method should not be resorted to in all cases of operations around the shoulder when it is necessary to control hemorrhage. And we may also add that in the use of the rubber tube explained, below the axilla and around the shoulder, we cannot see the necessity of dividing the clavicle when an incision above and below the clavicle would permit the passage of the tube.

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AMPUTATION OF HIP JOINT:—Six cases are reported with two deaths. Five of these operations were for sarcoma and one for osteo-myelitis. As a preliminary measure the external iliac artery was tied in every case. In four cases the high circular amputation was employed, after which the head of the femur was removed through an external longitudinal incision. Schermahowsky prefers this to all other methods.

LUNG SURGERY.

Strange as it may seem, we are to-day carrying out the suggestions in operations upon the lung and its coverings, made by Hippocrates two thousand years ago, not only as to location and instruments used, but the technique of the operation. We to-day have only added what the father of medicine hinted at —antisepsis.

For all practical purposes, we may in lung surgery consider abscess of the lung and empyema as the same, differing only in location. Again we may practically only name three methods of operating, namely, aspiration, incision and Estlandiss' operation. Drainage may be used in either method.

ASPIRATION,

Steele, of Chicago, concludes, is safe, and in children is often successful, but too often the fluid reaccumulates and is not as perfect an operation as incision and the use of the drainage tube.

In Estlandiss' operation for closure of pleural cavity, the operation is gaining in favor.

Thirien, of Brussels, has operated upon thirteen patients suffering from purulent pleurisy with fistulæ, necessitating nineteen operations for thoracoplasty. Only one death, eleven cured. One had left a small fistula. Of ten cases, seven were operated upon once, one twice, two three times. Boeckle, of Strasburg, thinks want of success in this operation is due to too limited resection, and recommends, if necessary, to obtain falling in of the chest walls; to resect not alone the ribs, but the scapula.

We are informed that while it is desirable that adhesion between the two layers of the pleura exist, yet it is not necessary to wait for this condition to take place, thereby diminishing our chance for restoring the patient to health. In some cases of abcess, injections of iodoform and glycerine have been injected after operation, and by some is recommended. After

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Estlandiss' operation at times it becomes necessary to again operate; where chest walls have failed to collapse sufficiently to obliterate the cavity, this time by removing all condensed tissues, leaving only the skin. A modification of Estlandiss' operation has been reported, consisting in the simple resection of the ribs without removing the resected portion. I see no advantage in this modification over the subperiosteal method.

Dr. V. M. Zakharevitch, after experimenting upon dogs and rabbits, states that he ablated portions of lungs after resection of ribs, ligatures cut off, and after powdering with iodoform returned the lung which he had dragged out, and stitched up the wound hermetically. In nine rabbits only two were fatal. In eleven dogs three proved fatal.

T. Pridgen Teale reports six cases of abscess of the lung and empyema, three of which were connected with the liver, and thus concludes: "We are losing our fear of exposing the pleura and the lung, just as we have learned step by step how to deal boldly and safely with the peritoneum.

"The evil of admission of air into the pleural cavity is not the mere exposure of the pleural surface to the air; is not that the lung collapses by the mere admission of the air, but that, where there is a fairly healthy lung and pleura, the inrush of air reduces to a serious extent the mechanical power of the thoracic wall over the function of inspiration.

"As to washing out the cavity of a large pleural or pulmonary or hepatic abcess, it is probable that antiseptic washing is of value in the early period whilst the cavity is offensive; but as soon as the secretion has become sweet, washing is not only unnecessary, but tends to disturb the comfort of the patient and retard its progress. If drainage be effective, so that fluid does not lodge, the fluid, which is sweet when secreted, should escape from the cavity before it has time to deteriorate."

More active operative interference with the lung than has hitherto been attempted is justifiable, is the conclusion.

BRAIN SURGERY.

Our knowledge is all so recently obtained upon brain surgery that any facts in this connection, though known to the few experts, is to the general practitioner new.

Few of us engaged in general practice recognize the rapid stride that has been made in this branch of surgery; that realize that portions of the skull can be removed and then replaced with the certainty that that portion soon becomes an in-

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tegral part of said skull; that the dura mater can be divided, turned back, thus allowing the brain substance to be exposed, and with the assurance that repair will take place in due time, or that we may divide all the membranes of the brain, separate the convolutions with the finger, probe or spatula, may penetrate the substance of the brain with needle or bistoury down to the ventricles, open up the ventricles, examine and drain, and that too with benefit; yes, may even pass a rubber drainage tube directly through the cerebrum from side to side, wear it for weeks and the patient be the better for this treatment, in tubercular meningitis; that we can now place our finger upon the motor area, if required, motor and sensory centres for each limb and digit; can almost point out the precise convolutions where each idea is evolved.

In brain surgery the first demand is correct anatomical knowledge so systematized as to give uniform results, and while we have greatly extended this knowledge of the topography of the brain, more accurate rules for finding and locating centres is demanded; in a word, an exact cranio-cerebral map.

Anderson and Makins have given us the most reliable map thus far presented on the subject. The ingenious method employed to obtain said map is briefly explained as follows: Expose one-half of the dura mater by removal of the corresponding half of the skull cap, and trace the sulci on the surface of the dura with thick colored mucilage. The skull cap being replaced, these colored lines marked out on its inner surface, lines corresponding to the sulci, and a series of perforations through the transferred lines shows the position of these sulci upon the outer surface of the skull. By this method certain fixed points were obtained, and from these points certain fixed lines projected.

In the diagnosis of cerebral cysts or abscess, Prof. Gouchon suggests that we may employ when in doubt, an aspirating needle, introduced through a hole made in the skull by a watchmaker's drill. We are informed by Dr. Bennett, of N. J., that hemorrhage from the ear is no evidence of fracture of the base of the skull, as it may occur from slight concussion, and that many cases now on record of recovery from fracture of the base of the brain, were cases of concussion only.

Prof. Von Bergmann believes that primary abscess of the brain never occurs, nor that tubercle often leads to abscess, and that the most frequent cause of abscess is from suppuration of the middle ear, in which case 60 per cent. of these pus cavities

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are located in the tempero-sphenoidal lobes and nearly 20 per cent. in the cerebellum. Von Bergmann then states that abscess of the brain can only have a fatal ending by non-operative treatment; and while facts do not altogether justify this view, yet the treatment is, undoubtedly, early surgical interference.

The reports of cases during the past year encourage operation wherever hemorrhage is suspected, whether subcranial, subdural, or cerebral. To control bleeding we may suture and tie the vessel; apply ice; tampon the wound with iodoform gauze,—compression. Senn reminds us that the past year has added much to the reputation of American surgeons, the most brilliant results being reported by them in this branch of operative surgery, and cites Keen's removal of a fibroma $2\frac{7}{8}$x$2\frac{1}{2}$ inches and $\frac{3}{4}$ inches in thickness; $7\frac{1}{4}$x6 inches in circumference, and weighing nearly four ounces—removed from the tempero-sphenoid region of anterior and middle lobes of cerebrum, with, we may say, complete recovery to health, the noticeable defect being his inability to distinguish colors.

Also a case of tumor near the left lateral ventricle, by Weir, of N. Y., it being accurately located before operation.

In case of gun shot wounds of the brain, Nancrede would search for, and if possible remove, the bullet. In case the bullet is not found he recommends free drainage.

The past year has added legally to our faith in the treatment of epilepsy by surgical interference. When the origin can be traced to traumatism, especially if hemiparesis is present, the use of the trephine or chisel is indicated, and added recoveries warrant the surgeon in using the trephine.

Cases of epilepsy other than traumatic, benefitted or relieved by trephining are accumulating. It is claimed that cases classed as Jacksonian epilepsy promise most from operation.

Victor Horsely insists that no claim of cure should be allowed from operation, unless freedom from attacks had extended over a period of five years.

In cases when there is well defined aura, ablating the corresponding motor center, thereby converting a painful attack into a paralysis as it were, is advised.

Keen reports his second case of epilepsy of uncertain origin treated by excision of motor center of left wrist and hand; the aura starting from the hand and wrist, but more especially the thumb.

Time does not admit of my giving the details of the operation, and will say that paralysis of the hand and wrist supervened

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immediately; wound healed kindly; temperature never exceeding 100 degrees F.; the seizures occurred at longer intervals and became less severe; patient returned after four weeks, at which time the paralysis had not entirely disappeared. Keen stated that by "compensation" it is nearly certain that in time this patient will regain control of the left hand through the other "hand center," this being the rule. Other cases of ablating motor centers for epilepsy are reported by Lloyd and Deaver.

Although not properly coming under the head of brain surgery, allow me here to make mention of Alexander's treatment of epilepsy—namely, incision of the superior cervical ganglion with object (theoretically) of altering the nutrition of the brain through its blood supply. Passing the technique of the operation, he gives the following results: He treated twenty-four cases, and after watching the cases from 4 to 6 years, six were cured, ten improved, especially mentally, and five unimproved.

Von Bergmann tells us that encapsulation of a brain abscess never in the strictest sense takes place. As a rule a brain abscess either follows an injury associated with some wound of any of the coverings of the brain, or it develops in the course of suppurative inflammation of the skull, most frequently a purulent inflammation of the middle ear.

Sir William Stokes in a paper on cerebral abscess concludes with the following: "First, that anticepticism has largely diminished the danger of trephining; that having regard to the great mortality of cases of cerebral abscess when uninterrupted with—viz: 90 to 100 per cent. the operation is indicated even when the patient is in extremis."

The blunt pointed aspirating needle is the safest mode for exploration and evacuation.

Weickle calls attention to the fact that in abscess of the temporal region a peculiar disturbance of speech points to this location, which consists in the confusion of correct with incorrect words—a species of aphasia implying interruption in coordination.

As yet, operations upon the cerebellum have received little attention, but the future promises that this mass of nerve matter shall not be long exempt from surgical interference.

I can do no better in closing my report on brain surgery than to quote Lucas-Championniere, that trephining, when done under antiseptic precautions, is a comparitively safe ope-

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ration. He has operated twenty times, five of which were for traumatism. Once a large arachnoidian vein was opened, and at one time the superior longitudinal sinus. He uses a trephine three centimetres in diameter; has found that without re-implantation of the button of bone, if no suppuration follows the operation, the cicatrix is resistant, even so firm that after a time the pulsation of the brain can no longer be felt. In this connection I wish to remark that in a case where I removed a portion of the skull 3½x3 inches, and when suppuration did follow the operation (this five years ago) no pulsation of the brain can be felt.

Two cases of nerve grafting or nerve transplanting are reported during the past year. The one by Gersung, after the removal of a neuromata of the median—the neuroma was excised, taking with it a portion of the nerve; a piece of the sciatic nerve of a rabbit was sutured to the cut ends of the divided nerve, and to the connective tissue between; after two months sensation returned.

The other case was reported by Dr. Mayo Robson similar to the first. It was of the median nerve, and for the removal of a neuromata. In this case Dr. Robson grafted 2½ inches of the posterior tibial nerve from a recently amputated leg. He reports thirty-six hours after the operation slight sensation, and five weeks after, sensation was perfectly restored.

John W. Taylor, F. R. C. S., calls attention to the fact that the importance of gonorrhea is not sufficiently considered; especially is this true from the fact that it is the main cause of the inflammatory disease of the uterine appendages. As he says, it is a grave disease, and occasionally a fatal disease. The detection and treatment in its early stage is insisted upon. He warns the surgeon against the use of the uterine sound in all cases of suspected disease of the vagina as liable to convey the micro-organisms higher up the genital track.

The male suffering from gleet being capable of propagating the same, so long as the gonococcus is present, should not be permitted to marry, unless repeated examination had failed to find any trace of the diplococcus.

He considers vaginal suppositories the best method of applying remedies in the treatment of gonorrhea in the female. The antrophore or its counterpart is recommended for the treatment of gonorrhea in the male.

The merits of Newman's treatment of stricture by electrolysis is still being discussed, and notwithstanding, many fol-

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lowing the lead of Keyes condemn it; still it has its followers, of which number I am an humble member. Otis reported last September his results in the treatment by dilating, urethrotomy 666 cases without a death.

F. S. Wilson gives this as his opinion: That anteriorly to the triangular ligament perform internal urethrotomy; behind this dilate, if possible, otherwise to cut externally.

For the radical cure of stricture, Woefler recommends the transplanting of mucous membrane upon the stricture.

ANÆSTHETICS.

Under the head of anæsthetics we may notice fifteen deaths from chloroform, three of which used in part the A. C. E. mixture. Four cases of death are attributed to ether; death taking place in from a few hours to four days. Several new anæsthetics have asked for admission into the confidence of the profession during the past year, among which is haya-erythrophylon or hayapoisen. Too little is known at present of its properties to place any confidence in its use.

COCAINE.

Warnings are heard on every side against the indiscriminate use of cocaine in surgery. A case is reported of death of a patient in Russia from an overdose injected into the rectum and the suicide of the attending surgeon, though just how the cocaine is held responsible for the death of the surgeon we fail to comprehend—a case of vicarious retribution perhaps.

Dr. Abadie reports a case of death from three-fourths of a grain injected into the eyelid. Other deaths are reported from its use; hence the following deductions by Wyeth:

1st. Solutions should not be above five per cent and should be freshly prepared.

2nd. When practicable the cocaine injected should be prevented from entering the general circulation by the use of elastic compresses above seat of operation.

Two-thirds of a grain is usually enough for a hypodermic injection, though double the quantity can usually be considered safe, and in mucus canals like the urethra and rectum five grains can be used. Notwithstanding these warnings so freely given, and reports of death from its use, still we can not deny that its use has been greatly extended during the past year. The following operations are reported under its use:

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Supra public cystotomy.
Amputation of the rectum.
Removal of the cervix uteri.
Internal hæmmorhoids.
Tumor of the parotid, etc., etc.

Tracheotomy and herniotomy have also been performed under its use, and Corning claims that excision of joint can be performed under cocaine with entire absence of pain. Yet let us remember that four deaths have been reported during the past year—one of the four deaths occurred from the effect of cocaine injected into the urethra.

Henry Sewell, of Michigan, during the last years has been inoculating against snake venom—experimenting upon pigeons, using less than a poisonous quantity of venom, and states that after recovery the birds were measurably protected against the poison at a subsequent inoculation, although above the fatal amount failed to destroy life. The protection, however, lasted only about five months. Although the experiments were not carried out upon a sufficient scale to prove the prophylactic value of the operation, still it holds out a hope that inoculation may be of value against the cobra venom, and be the means of saving many lives. The mortality of over 22,000 in India in one year calls for some remedy against this dreadful loss of life.

Schede's method of healing wounds by "moist blood clot" is advocated by Mikulicz and condemned by both Fenger and Senn; the latter substitutes for Schede's method in osteotomies by inserting discs of decalcified bone, and has proven by experiment that they are capable of organization, and recommends this disk after trephining, when not possible to reinsert the removed button of bone.

ABDOMINAL SURGERY.

After antiseptics I doubt if anything has contributed more to the success of the advancement of this branch of surgery than the insufflation of hydrogen gas, as described by Senn, in detecting perforated wounds of the gastro-intestinal canal, and in the diagnosis of the location and condition of tumors of the abdomen.

Insufflation of hydrogen gas is easily accomplished and is probably familiar to all present. It is only satisfactorily administered when the patient is anaesthethized. The inflation must be slowly made, the pressure being continuous. Liver

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dullness is the one condition above all others, to indicate perforation when the gas is used.

Dr. Senn especially calls attention to the use of hydrogen gas in cases of gun shot wounds of the abdomen, when medico-legal responsibilities are incurred, in the following language: "In gun shot or punctured wounds of the intestinal canal, insufflation of hydrogen gas enables the surgeon to demonstrate positively the existence of the visceral injury without incurring the risk and medico-legal responsibility incident to an exploratory laparotomy."

O. Menkowiske, following Senn's idea of insufflation of gas, has, during the past year, by a series of experiments, given the profession valuable aid in diagnosis in reference to abdominal tumors. The method is thus described by Mears: The position of the tumor is accurately located, the stomach being empty, after which the stomach is distended by administering carbonate of soda, followed by tartaric acid; again, the tumor is accurately fixed and the gas removed by stomach tube. The large intestine is now filled with water. After examining a large number of tumors and observing the behavior of same under the circumstances above described, he has formulated certain rules in regard to the direction taken by these tumors under the treatment named. To appreciate the aid received in determining the nature of a tumor thus acted upon, the article should be read in full.

During the past year several reports are found of laparto-omies performed in purulent peritonitis, and the number of recoveries encourage us to hope for a decreasing mortality in this disease, through surgical aid.

In this connection we notice a report of Herman Kuemell of Hamburg, who tabulates forty cases of tubercular peritonitis treated by operation. Of this number only two died from the operation; the others recovered promptly. The cure, as he terms it, lasted from two months to twenty-five years. In a certain number of these cases there was co-existing pulmonary tuberculosis, which, in a fair per cent. subsided.

GASTROTOMY.

Pepper, of London, reports three cases of gastrolomy with one fatal result.

Girard describes a method by which a sphincter is formed in the rectus muscle after gastrotomy to prevent leakage.

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Dr. Richardson after sixty observations upon the cadaver decides that when a foreign body is situated more than six inches from the cricoid cartilage, or thirteen inches from the upper incisor teeth, it can be easily reached from the stomach, and that gastrotomy is the operation for its removal, instead of endeavoring to reach it through the æsophagus from above.

In reference to the operation of pylorectomy we think that it is the opinion of a majority that it should give place to a less fatal operation—gastro-enterostomy, or intestinal anastomosis—a substitute less fatal, less in magnitude and giving more satisfactory results.

Under the head of abdominal injuries Dr. Thomas Martin, of Philadelphia, has collected 234 cases of abdominal sections for traumatism with a mortality of 58.97 per cent. Death resulted in 43 cases from peritonitis from delayed operation; in 16 from peritonitis arising after operation; in 11 to overlooked perforations; 4 insufficient suturing of wound; 3 died upon the table; 10 immediately after leaving it; 40 within twelve hours. In 18 cases, abdominal section was performed, and no intraperitoneal injury found; two of these cases died; 110 gun shot wounds showed a mortality of 67.2 per cent.; 79 stab wounds, 39.2 per cent.; 27 ruptured bladder, 69.9 per cent.; 18 ruptured and contused intestine, 88.8 per cent. Resection of intestine was performed 17 times in 15 cases, with but two recoveries.

In colotomy make your incisions in the inguinal, never in in the lumbar region. Langenbeck reports a case of extirpaion of a constricted liver, the portion removed being the size of the fist and weighed twelve ounces. The patient, a woman, made a good recovery. To control hemorrhage pressure was made and the vessels t'ed.

Lawson Tait, in his last series of operations upon the gall bladder, presents 11 cases with one death.

Successful operations for the removal of floating spleen are reported, among which was one reported by T. A. McGraw, in which the patient expectorated the ligature of the pedicle.

I had the satisfaction two weeks ago in company with our worthy president of witnessing two operations upon cysts of the pancreas—one by Fenger, the other by Etheridge; both diagnosed before operation; both successful.

Surgical interference in the treatment of disease of the kidney is becoming very common, and is giving most flatter-

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ing results. The literature upon the subject during the past year has greatly multiplied and is teeming with successful results.

Nephrotomy may now be considered an operation requiring no unusual skill and fraught with little danger.

HERNIA.

Time admits of only a few words upon this very important subject, and I cannot do better here than to quote from Mayo Robson, F. R. C. S.: "The treatment of hernia, both strangulated and non-strangulated, has greatly improved, owing to the adoption of antiseptics. Where hernia can be efficiently retained by a truss, nothing more is required or advisable; but when irreducible, or if reducible, when it cannot be comfortably retained in position by a truss, and the patient be not too old or feeble, an operation for a radical cure should be performed." Of the different methods of performing the operation for the radical cure, the open method is the one preferred—operations differing somewhat in the details. Banks removes the sac. Macerven separates it and then uses it as a pad to strengthen the weak part of the abdominal wall. The pillars of the external ring sutured by some; by others the ring is not interfered with.

Robson prefers to separate the sac, to ligature it as high as possible, and then use a part of it for a pad to strengthen the canal; afterwards suture the external pillars together with chromicised cat gut. He has operated upon 60 cases by this method and is satisfied with the result.

STONE IN THE BLADDER.

There will always exist a difference of opinion as to the best means of obtaining relief in this trouble. Some will cut, while others will crush. From a recent report by Surgeon Major Keegan comes 114 litholapaxies performed upon boys, the youngest being only two years of age. This report is the more valuable as consisting of a class deemed unfavorable for this operation. Keegan summarizes the advantage of this operation in boys thus: 1st, no cutting necessary; 2d, greater rapidity of cure; 3d, no unpleasant after results; 4th, mortality less, though he fails to state what the mortality was in this series of operations.

No doubt that better instruments which can now be had will add much to the success of this operation.

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Assendelft reports 102 suprapubic lithotomies with two deaths, and these in children under five years. When such results can be obtained from cutting, the operation cannot but be popular.

I doubt if the suprapubic operation, save in children and special cases, will ever supercede perineal lithotomy, in favor with the profession; though in operations upon the bladder other than for stone, and especially for enlargements of the prostrate projecting into the viscus, it is an operation of great value.

In comparing the electric cystoscope with digital exploration in disease of the bladder, the former is given the preference.

SPECIAL AMPUTATIONS.

Dor favors amputation through the tuberosities of tibia rather than through the knee joint.

Cathcart approves of partial foot amputations.

Tinsmeister, in flail-joints, as well as badly constructed ones, urges the production of ankylosis as giving excellent results.

Ligature of the innominate artery.—Mr. Spencer states that by using a median incision, exposing the R. common carotid and following it as a guide down to the innominate and ligaturing both the latter and the carotid with antiseptic silk, that the uniformly fatal result may be avoided.

Dr. Lewtas reports a case where he tied both the R. carotid and innominate in case of wound of the subclavian, the patient making a complete recovery.

A CASE OF SYPHILIS WITH AMPUTATION OF THE LEG.

By Dr. S. W. Clark, Oskaloosa.

From the fact that so much has been written about syphilis, and that the subject was made so prominent at the school at which I attended lectures, and further, because it is such a common disease, to me it has always been a subject full of interest.

The patient, Ma y J., colored, aged 49, first came under my care May 13, 1888. From her I learned that she had been married sixteen years before to her husband, with whom she had lived about two years. Within a year from the date of

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her marriage her right foot had commenced to trouble her along the inner margin of the great toe. The foot was swollen and tender, very painful, especially at night, and the trouble was said by her physician to be a chilblain, for which he treated her. The toe grew more and more painful, and finally ulceration ensued.

I further learned that about this time she had been troubled with severe itching, which, like the pain in her toe, was worse at night, especially when she became warm. She said she never had had any enlarged glands in her groin, or, to the best of her knowledge, ulceration of the vagina. She had been troubled with what her doctor called rheumatism, at which times the crest of the tibia would become painful on pressure. In December of '83 her great toe had become so painful from the ulcers with which it was covered that her physician amputated it, but no relief followed. As she said the pain became more and more severe, each night being worse than the night before, necessitating large doses of morphine to relieve the pain and permit her to sleep. Ulceration followed rapidly on the remaining toes of the foot, and they were in turn removed.

When I first saw her she was taking about two grains of morphine per day, and was exceedingly nervous from pain and loss of sleep, and the effects of the morphine. Her appetite was poor and her weight had been decreasing for the last two years. She had three ulcers on the dorsum of the foot; one, the size of a silver dime, being located between the distal extremities of the first and second metatarsal bones; the others, about half as large, were located between the third and fourth and over the fourth tetatarsal bones. The secretion from the ulcers was thin and watery; the edges of the ulcers were undermined and breaking down rapidly, the tissues around being tender, especially so at night, and there was marked œdema of the foot and leg. Knowing the prevalence of veneral diseases among the negroes, I diagnosed the case as syphilis.

My treatment was one-eighth grain of bi-chloride of Hg. t.i.d. As a dressing for the ulcers I used iodoform, applying over this a rubber bandage extending to the knee, in order to relieve the œdema of the foot and leg. I had her leave off the the morphia one-fourth grain every second day till she ceased taking it entirely. At the end of the first week she was free from pain for the first time in thirteen years. The ulcers still continued to enlarge, so I used calomel as a dressing. Under this they ceased enlarging but would not fill in with granulations. I

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next used Bis. Sub-nitras, then Bal. Peru, then returned to the iodoform, but still the edges looked pale and the thin watery secretion perished. I now commenced the use of Boric Acid as a dressing, and greatly to my surprise granulations formed in the ulcers and the discharge stopped. By September of 1888 one ulcer had headed, while the others had not changed in size, although granulations showed and they would bleed on removing the dressing, the first blood she had ever seen come from any of the sores. The patient was now eating heartily, had gained twenty-six pounds in flesh, slept soundly the entire night and expressed herself as being better in every way. In November 1888 there was still no further improvement and at my request she attended Prof. Peck's clinic at the State University, where my diagnosis and treatment werec onfirmed. For the next two months improvement was slow, but by March 1st of 1889 the patient's foot was to all appearances sound and well, no œdema, no tenderness or pain, and the ulcers entirely filled in with new tissue. Things continued thus for two months and I was congratulating myself with the thought that the cure would be permanent, when I was again called to see Mary J's foot. I found her with sores covering the greater portion of both feet and legs. She said she had been washing, had caught cold and had muscular rheumatism in her legs and feet. One of the neighbors had sent her a bottle of liniment that was a "sure cure" for rheumatism, she had used it on her legs and as a result it had destroyed the skin where ever it had touched. The left foot and leg healed in the course of a few days, but the right became greatly inflamed and swollen, sinuses formed connecting with the metatarsal articulation, and about July 16th a sinus formed at one place connecting with necrosed bone. To use a slang term I was now at the end of my string, and the patient as well as myself giving up all hopes of saving the foot, asked that I should amputate it. To this I consented, first advising that another physician should express his opinion regarding the foot. On the next day Dr. W. R. Nugent, of Oskaloosa, Iowa, saw the case and said amputate it. This I did on the 25th of July, assisted by Dr. Nugent and J. F. Flumer, D. D. S. The operation was the ordinary short anterior and long posterior flap at the junction of lower and middle thirds. Chloroform was the anaesthetic used, with one-fourth grain morphia subcutaneously. Closed the arteries by torsion, covered the stump with marine lint and absorbent cotton, with carbolized castor oil (one to eight) as a dressing.

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On the seventh day the patient was able to walk around on crutches. At no time that I saw her was her temperature above 99.5° or her pulse above 96. The wound closed by secondary adhension. The patient still takes the bi-chloride solution about two weeks in every month, is still slowly gaining in flesh and shows no signs of a return to her trouble.

DISCUSSION.

Dr. D. W. Finlayson—Mr. President: Recently I had a patient, one that had been a syphilitic for something like four years. It seemed like I would have to amputate, but under the use of chloride of mercury and iodide of potassium, the case recovered fully and the ulcers healed and she is now apparently as well as ever. The other case I received at the commencement of the disease and it has since been growing worse and worse and has made me no result whatever, so that at the present time the indications are that we will have to amputate, and the prospects for life even are very poor, showing that what will cure, or apparently cure, at any rate give good results in one case under the same treatment and for the same condition of things, in others grows bad from worse and we never get any result whatever.

The paper was here, on motion, refered to the committee on publication.

OVARIOTOMY—REPORT OF CASE—OPERATION—REMEDY.

By T. J. Maxwell, M. D., Keokuk, Iowa.

Our object in reporting this case is that it may be of some use to others, as it is somewhat out of the usual category of ovarian tumor complication. It is said that "brevity is the soul of wit." If that be all there is of wit, we will make this paper extremely witty:

Miss M. S., age 57 years, rather above medium height, spare habit and blonde complexion; menstruated first at thirteen years of age; passed the menopause at fifty-four years of age. Health began to fail five years ago, or about two years before cessation of the menses. Dr. McKibben, of Keosauqua, who kindly furnished me with the above history, says: "Miss S.

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came under my care in March or April of 1889. Exploration of the respiratory circulatory and urinary tract gave negative results.

"Digestion—Appetite poor, bowels constipated, nervous system irritable, sleep broken and unsatisfactory. Tumor in the right iliac region gradually enlarging and filling abdominal cavity. No clear signs indicating hydro-peritoneum, but slight wave on succussion; distressing, indescribable pain in region of right ovary, reflected to the stomach, causing nausea and coming in periodical paroxysms."

I saw the case first in July, 1889, at the lady's home. There was fluctuation, with dullness over upper and anterior part of abdomen that did not alter with change of position. In the lower and central part of abdomen the tumor seemed to be firmer and the fluctuation obscure; os uteri slightly larger than normal and sound could only be passed 2½ inches backward and to the right. A rather firm, elastic tumor could be felt through vaginal wall, which, when pressed upward, the whole abdominal contents appeared to move.

The lady came from her home and entered St. Joseph's Hospital, August 6, 1889, in a very feeble and nervous condition, which improved somewhat by baths, quinine, etc. After one week of preparatory treatment, such as indicated, and careful attention to preparation of instruments, sponges, ligatures, self and assistants, according to antiseptic principles—not necessary to detail,—the patient was put upon the table and etherized. Incision made along the linæalba discovered a reddish tumor, quite unlike the pearl-colored ovarian, which was about as large as an adult cranium. This proved to be the uterus, containing an interstitial fibroid. An incision about four inches along the anterior fundus was made, and a white fibroid tumor was enucleated by fingers the size of a cocoanut; the incision in the uterus was closed with cat-gut continuous suture, fortified by one silk suture in the middle of the incision. A large ovarian cyst was then brought into view, attached by a very broad pedicle to the right broad ligament. This was tied after Tait's method, with silk plaited whipcord. The cyst was of two and a half gallons capacity—a monocyst. After dropping the pedicle back into the pelvis there continued an undue oozing and the pedicle was again brought forward and examined, when it was discovered that the ligature had torn a slit quite two and a half inches long in the upper part of the broad ligament, and a small artery near to the stump of the Fallopian

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tube on the side of the uterus was spouting and the source of the hemorrhage we sought. This was ligated and the rift sewed with a continuous silk suture. The peritoneal toilet was completed by introducing a glass drainage tube into Douglas' cul-de-sac, resting in the lower angle of the abdominal wound. The incision was closed by sixteen silk sutures inserted from within outward, including about the quarter of an inch of peritoneum and passing through the entire abdominal wall. There was one suture left untied at the drainage tube which was removed forty-eight hours ofter the operation. This suture was firmly tied on removal of tube. Iodoform was freely used along the line of sutures, and the abdomen well padded with wool, all confined by means of flannel binder.

The abdominal wound healed without any pus formation. There was a good deal of irritability of stomach for a week; temperature rose twice to 100 degrees Fahrenheit, which was temporary, and was evidently the result of mental excitement, and not from inflammatory cause. Bowels moved freely the second day after operation and continued free during convalescence. There has since formed a small ventral hernia at the site occupied by drainage tube. Otherwise the patient enjoys good health and perfect recovery from the operation. She returned to her home five weeks after the operation. The points of interest in this case: (1.) The double operation. (2.) The recovery from the operation without rise of temperature.

TUBERCULOUS PATHOLOGY AND ITS INFLUENCE UPON OPERATIVE SURGERY.

By W. F. Peck, M. D., of Davenport, Iowa.

In presenting views on the subject of tuberculous pathology, in connection with its influence upon operative surgery, it is my desire to be understood as not offering new thoughts, but rather to utilize recent facts in showing that the surgeon of today is better situated to accomplish results in practice, more favorable to his patient, than was his predecessor of not many years ago.

It is now but little more than eight years since Koch, in his efforts to demonstrate the pathology of tubercle, discovered an organism specific in character, in all tubercular diseases.

The work of the microscopist and the observation of the clinician, since his discovery, have so harmonized, that we now

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find, not only in the pulmonary tissue, but in all of the structures of the body, under given pathological conditions, the tubercle bacilli, which enables us, by their presence, to originate and execute methods of treatment specially beneficial.

It may be important, in planning preventive means against the entrance and development of bacilli into the organs and tissues of the body, to mention the sources from which, and by which, this invasion may occur. The question of transmission by hereditary means should also be considered. It is but a few years since it was thought sufficient to admit that scrofula, tubercle, dyscrasia of the blood, predisposition of temperament, etc., were conditions suggestive of disintegration.

That the cause of consumption could be, in substance, transmitted was also believed. Now knowing why bacilli select certain organs and tissues for action, we believe that the generic stamp on tissue may be the means of putting it in such a condition as to furnish a culture field for bacilli, and in this way account for embryonic cell existence in tissue.

In tuberculosis bacilli origin, by introduction from without the body, we understand that the atmosphere may contain dried sputa-tubercle germs, and may be inhaled or be introduced through articles of food, such as milk, meat, etc.

When once introduced, the special method of development of tubercular growths may be best described by Dr. C. T. Williams who states: "That the germ reaching the alveolus through the breath (or any other source), the bacillus enters the epithelial cell, and causes proliferation; the alveolus becomes stuffed with cells, and if the irritation be a gradual process, it gives rise to a highly nucleated product, the giant cell. If the irritation be great, the caseation is rapidly produced, though whether this be due to necrobiosis from overcrowded proliferation, or, as Mr. Chyne states, to a chemical change in the cells, brought about by the action of the bacilli, is not yet determined. The irritative mass thus formed, sets up a hyperemia with consequent migration of white blood corpuscles, and thus the disease focus tries to keep off the bacillis from the system by encapsulating itself. Epithelioid cells have been described as arising from the action of the tubercle bacilli on the fixed cells of the connective tissue, or on the epithelium, and out of the epithelioid cells, the giant cells proceed, and increase of nuclei taking place in them, while the partition is omitted. If the bacilli are few, then the epithelioidal cells and giant cells will

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be abundant; but if the germs are numerous, then the white corpuscles will emigrate and gradually supplant the larger cells."

The bacilli must then be understood as finding their habitat in tissues best prepared for their development. In the lung the site selected is usually the apex, for anatomical and physiological reasons, in moderate blood supply with corresponding nutrition.

The same reason may be given for the selection of articular tissues for the location of tubercle; but in doing so, the other influences, such as traumatism and chemico-physiological action must be considered. The presence of bacilli in parts undergoing destruction must not be granted to be the only factor in operation to produce the changes. The influence of the alkaloids and extractive matter resulting from normal cell life, as well as necrosis of tissue, most certainly performs an important work, both septic and local. That the tubercle is a product of the inflammatory changes which, if continued, show effects which result in proteid combination, producing ptomaines and leucomaines.

It seems then that when tissues like lymphatic glands and joints are developing in their growth towards completion, that they are more easily influenced by both extrinsic and intrinsic causes, than when they have become fully matured.

It was my privilege many years ago, to listen to the late Prof. Samuel D. Gross, when giving his reasons for many pathological conditions being due to tubercle. A prominent New York surgeon was always frank to admit that Dr. Gross' reasons were good when they did not apply to hip-joint disease; for in that disease he claimed, and unswervingly held, that hip-joint disease was always to be attributed to traumatism, and not influenced in its primary development by tubercle.

Wishing, for the benefit of operative surgery, not to go into the discussion of the question of special exactness as to the remote cause of glandular and articular diseases, I accept the situation as it exists, and ask the question: Are we progressive, comparatively, with the advances made by histology and pathology?

For many years I have, in my teaching and work, been of the opinion that the profession at large wait for advanced symptoms of destructive results to occur, in pathological diagnosis, before giving the patient the benefit of timely assistance.

And this, I think, is particularly true in diseases of the hip-joint. It should be conceded as an undisputed question, in

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the treatment of the tubercular inflammation of glands, joints, bones and other tissues, that, if possible, at the inception of the pathological changes, rest in as complete a manner as may be secured is indicated. But the opportune time for preventing changes from occurring by this method having past (and this may be declared when suppuration exists, even in its very beginning), the question of operative interference is then one of great importance, and should be determined upon facts of pathology.

In articular surfaces the same pathological conditions operate to disfigure, impair or destroy the joint; and the same is also true on mucous, serous and tegumentary surfaces.

I think then the earlier the field for the development, existence and reproduction of the tubercle bacillus is made uninviting the better; and the result is rarely accomplished in the joint or gland, without surgical interference, unless a defensible constitution triumphs in the contest for organic existence.

FROM AN EXPERIENCE OF THE PAST YEAR

I present herewith ten wet pathological specimens, with a brief history of each, which I believe will assist materially in illustrating my views. The brief histories accompanying will also furnish sufficient information for corroborative purposes:

Case No. 1. Roy T., residence Le Mars, Iowa; age 12 years; admitted to Mercy Hospital, Davenport, Iowa, July, 1889, for disease of left hip-joint in third stage, clinical history of two years duration. Operation July 30th. Necrosis of head and neck of femur, extending to a point just below trochanter major; also necrosis of floor of acetabulum. Good recovery.

Case No. 2. Chas. V., residence Gladstone, Iowa; age 7 years. No family record of tubercle; clinical history of three years duration. Admitted to Mercy Hospital, at Iowa City, February 1st, with disease of left hip-joint in third stage. Operation February 14th. Pathological condition: Head and neck of femur extensively necrosed. No necrosis of acetabulum. Progress of case satisfactory and towards recovery, on March 10th, when he was taken to his home.

Case No. 3. Anton K., residence Chelsea, Iowa; age 16 years. Family record not clear. Clinical history of three years duration. Admitted to Mercy Hospital, university clinic, with hip-joint disease in third stage. Operated upon January 3, 1890. Pathological condition: Showed head of femur and neck

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down to trochanter major necrosed; acetabulum slightly necrosed. Left hospital walking well on crutches, March 8th.

Case No. 4. Willie M., residence Menlo, Iowa; aged 13 years. Father died suddenly; mother living and healthy. Clinical record from September, 1888, since which time he has had synovitis of left ankle and knee, resulting in incomplete anchylosis. Also disease of right hip. Admitted to Mercy Hospital, Davenport, March 13, 1890, with right hip in third stage of hip disease. Operation March 21st. Pathological condition: Partial absorption of head of bone, with part of remaining portion and trochanter on ilium. Removal below trochanter major. April 12th, patient making progress towards recovery.

Case No. 5. Frank O., Harlan, Iowa; age 23 years. Clinical history extends over a period of six years; was treated in New York for supposed ilio-femoral disease. Operated March 3d, by removing head and neck of femur. Pathological condition: Necrosis of remaining portion of head of femur and neck; the same extending into the trochanter. Acetabulum and ilium for a moderate area around eroded. The inner side of thigh had collection of pus, which was thought would drain through external opening. On March 9th, not getting sufficient drainage from collection of pus, on inside of thigh, the swelling was freely opened and communication with original opening made. One week later an additional operation was made to evacuate pus on posterior and inner portion of thigh.

Case No. 6. John H. B., residence Harlan, Iowa; age 29 years. Clinical history of six years duration and connected with right hip. Operation on March 3d. Pathological condition: Head of femur had been entirely discharged. Neck, trochanter and acetabulum extensively necrosed. Patient convalescing April 1st.

Case No. 7. W. H. H., residence Orphans' Home, Davenport. Age 13 years. Disease of left hip-joint. Clinical history two years, showing articular disease of right elbow and right ankle, with osteo-myelitis of left tibia at its lower extremity. Operation March 27th, 1860. Head of femur separated from femur and loose in acetabular cavity. Further operation on tibia, showing a large amount of soft disintegrating tissue, the result of tubercular inflammation. April 12th, rapid convalescence progressing.

Case No. 8. August D., residence Ida Grove, Iowa. Age 9 years. Admitted to Mercy Hospital, Davenport, March 20th, with disease of left hip-joint in third stage. The clini-

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ical history of two years duration. Operated upon March 28th. Pathological condition: Necrosis of head and neck of femur. April 12th, quite ready for crutches.

Case No. 9. Geo. A. R., Iron Hill, Iowa. Age 27 years. Disease of left hip-joint, third stage, of two years duration. Admitted to Mercy Hospital, Davenport, March 28th; operated upon March 29th. Pathological condition: Necrosis of head and neck of femur; acetabulum also much involved in necrosis. April 12, case progressing well.

Case No. 10. Dennis W., residence Avoca, Iowa; age 7 years. Clinical history from February 1, 1888. The apparent elongation of limb was taken for dislocation into the thyroid foramen, and accordingly demonstrative efforts made at reduction by two physicians with reported success. Operation upon left hip-joint made April 7th. Pathological condition: Found an abundance of pus immediately around and in the joint; epiphyseal separation of head of femur, with much loss of texture, showing synovial membrane and cartilage partially covering articular end. Floor of acetabulum almost wholly necrosed. Tubercle bacilli found in all.

It will be seen that in all of these cases the clinical record runs from two to six years; the greater number for two years. Each operation produced, as a result, evidence of too long a delay in surgical interference. We understand that in disease of the hip, the primary starting point is not confined to any particular part of the joint, but may originate in bone, and be communicated to different parts of the joint.

The cohesion of the head of the bone with the acetabulum furnishes very little room for purulent collections, but the arterial and nervous supply to the teres ligament, gives a chance for inflammation with its customary results. If the epiphysis is the seat of inflammation, necrosis is early threatened with insufficient nutriment from the teres vessels; the bloodless cartilage softens, and necrosis follows.

These changes using the numerous avenues for constitutional exhaustion, finally, with the disease in its so called third stage, the surgeon is consulted, with nothing to do but remove the local cause, and thereby give nature an opportunity for conservative action. The question which I wish to submit for acceptance is, that early in the stage of hip disease, the joint should be invaded, thus giving the patient a chance to get well.

It being true that tuberculosis bacilli, with the ptomaines leucomaines and extractive matter of the destructive changes,

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are in no way to be reached, except in the very earliest period of the disease by absolute rest, and by opening of the parts, thereby removing the useless material, and further by antiseptic treatment produce healing, and in that way permit nature to economize what before was lost to the body.

In all of these specimens presented, the operation should have been early performed. In many of the cases of tuberculosis of the articular surfaces of the vertebra, the space for accumulation is so limited that absorption takes place, or a channel for elimination is produced.

There does not seem to be at present any way to reach, by operation, the intervertebral cartilage, and give early enough treatment. The periosteum and other bone-producing tissues seem to take the place of, or assist, the surgeon in making anchylosis.

The lymphatic system especially, in the cervical region, is much benefitted by early operative interference. It is well known that when the tuberculous lymphatics are inflamed, the tendency is to suppuration; and following suppuration, before recovery, the entire gland must become caseous or discharge its substance.

I have no hesitation in commending the practice of excising early the enlarged lymphatics which usually have the same pathological conditions, to invite the use of the knife, that are found in disease of the hip-joint. When several glands are enlarged, and one only is suppurating, the entire chain within reach should be removed.

DISCUSSION.

Dr. Hobby, Iowa City—Mr President: I think the subject treated by the paper is deserving of consideration, not alone in reference to disease of the hip joints, but in regard to the other joints and to other adhesions existing in other parts of the body. We are returning to the old ideas in more than one direction, but in the return to old ideas we return with a greater amount of pathological knowledge and we bring that pathological knowledge to apply to that which was evolved from the experience of the past. This is notably true in returning to the idea of tuberculosis in the joints; an idea that was not lost, but which under the German influence of Sayre was for a long time lost sight of, and to-day

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the aid that he has given to the consideration of diseases of the joints is so great that many will feel that the profession is indebted to him more than to any other man in the treatment of diseases of the joints. Now in reconciling the condition of pathology with the views advocated by Professor Sayre, I think some of the operations that were performed last year, by whom, I forget the name, in regard to the production of tuberculosis in the joints of animals as the result of traumatism might apply. It was shown that in a large proportion of the animals first inoculated with tuberculosis material, either previous to the injury of the joint or immediately following it, a contusion then being produced within the joint, the tuberculosis material selected the injured joint as the place for primary development and that this disturbed tissue, the result of the contusion, afforded a culture field, a place toward which, and in which the bacilli that were introduced into the system found their way and developed. In this place the vital power failed to repel the invasion and to eliminate the poison.

Dr. Maxwell, Keokuk.—Mr. President: I think the practice of referring papers to the committee on publication is a worthy one. I think there are several points that will impress themselves on the society; on physicians as well as surgeons. Those points have already had attention called to them by the author of the paper; that is the early operation for the relief of this tuberculosis joint diseases; the surgical interference for the relief of these unfortunate cases. As soon as suppuration can be determined, that should be the time at which an operation should be instituted, at least. Rest and quietude and relief from pressure will very often enable nature to successfully resist the attacks even of the bacilli tuberculosis. If you will give the joint entire rest; if you will put on an apparatus by which the muscles that surround the joints forcing the bones —the head of the bone into the socket thereby increasing the difficulty, the tendency is in that case to relief; if you will accomplish that work either by a splint or by the extension—by a longitudinal extension elevating the foot of the bed, applying

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your extension to the leg longitudinally and then by a laterial extension pulling the head of the bone out of the joint, as it were, and relieving the pressure and keeping the patient perfectly quiet in the first stages of the disease, you will cure a great many cases which otherwise would go on and interfere with the work of the surgeon or cause the death of the patient. Now, these cases of tuberculous diseases linger a long time. There was an unfortunate case terminated in the hospital at Keokuk quite recently that illustrated this point. It was a case of tuberculosis of the lumbar vertebra. It was not brought on by traumatism, but by colds, by exposure—a cold bath. While a soldier twenty years ago he was ordered to cross a river while in a state of perspiration. Immediately on immerging from the river, on the opposite side, or at least, within a few hours, he was taken with a lame back, rheumatism, as he supposed of the back. That continued for years; he was discharged as a result of rheumatism. In the course of years, however, the vertebra began to break down and continued to distort; angular deformity resulted in the lumbar vertebra. Nature fought its way against this invasion, but unfortunately a lift and sudden twist produced a rupture of the bone that had been thrown out and kept in check this tuberculous disease, and these microbes emigrated into another tissue, formed a basis in the lumbar region and finally resulted in death. I have the specimen which is a very interesting one, showing that the body of the lumbar vertebra had become enormously enlarged as well as distorted. Now, the important thing in these cases, as well as many others, is a speedy resort to the only thing that will limit it to its localized condition, and that is a surgical operation for the relief of this condition, and that should be emphasized and impressed upon the general practitioner.

Dr. Jepson, Sioux City—Mr. President: This is a very important though not a new subject to the medical profession. And there is certainly no subject in the domain of the profession, or in that of surgery, that should engage their attention as much as that of the surgical treatment of tuberculosis viri; we are

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also to have our attention called to its most prominent feature —the localization of it in the bones. Of course, applying to such conditions as scrofula might cause a localization in other parts of tissues as the testicle and also the perineum or the meningeal membrane. There is one thing that is beautifully illustrated by the case that has been given us here to-day and that is this: We draw the important lesson that all the cases are young; all under the age of thirty; or, at least, the thyroid infection had occured before that age. Now, have we reason for this? We certainly have. Let the time of the entrance of the bacilli into the circulation be what it will, certainly it must have gained entrance into the circulation after that having occurred whether it become localized because of the injury received in the hip-joint; it can become localized through other means. It becomes localized for the reason of the circulation existing in the cartilage of the long bone.

Now, furthermore it is stated, I believe by Dr. Carter, in effect, that tuberculi infection may become encysted and may lie dormant for years. This is well illustrated by two cases mentioned by Dr.———, in which he attempted in the case of ankylosis of one knee joint and one hip joint by some reason or other to produce motion. In both of those cases general infection of tuberculosis occurred and the patient died. Now, I fear that we, many of us, do not appreciate the importance of early recognizing the fact of localized tuberculosis and dealing with it as infectious disease, and in view of this and in view of saving the system often encourage and aid its becoming general tuberculosis.

Dr. Sill—Mr. President: I have felt for years as though in the medical profession there was a great want in diagnosing hip-joint disease. I have seen numerous cases since I was at college—received my last degree from Prof. Peck on the symptoms of hip-joint disease. And, by the way, I have the most interesting specimen of that disease I ever knew; I carry it with me. I am not going to exhibit it, though. I remember of three cases within a little over a year that I have been called

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to very late; and, by the way, I have always contended that infinitesimal things were the most mischievous of anything in that microscopical business.

We got the demonstration of it to-day, but in all of those cases the disease was pronounced rheumatism of the knee-joint. My most earnest prayer has always been "God bless a fool." Every one knows these cases without redness, or swelling, or anything of that sort. I will say inflammation in the joint, morbus coxalgia was the disease, of course, and if I could do them any good I would try to, and I will sit down.

Dr. W. F. Peck—Mr. President: In closing this discussion I have nothing to say. The suggestions advanced in the paper were for the purpose simply of drawing the attention of the profession to the subject. That having been done, I am satisfied with leaving it to the paper.

On motion the paper was referred to the committee on publication.

CASE OF ABSCESS OF LIVER CONTAINING CYST.

By Dr. D. W. Smouse, Des Moines.

Chas. B., aged 19, weight 170 lbs., family history very good, never sick in his life before, always good appetite, active habits. First complained on March 1st, 1890, of pain in the abdomen a little to the right of umbilicus. March 2d, had slight chill, pain in same region occasionally becoming quite acute. March 3d, I was sent for, and found him sitting in a chair with body bent forward, limbs flexed in order to relax the abdominal muscles, which position he had been obliged to maintain almost the whole night, on account of pain. His temperature was 102, pulse 100, respiration 18, was restless and could give little history of himself on account of partial delirium. Had no nausea or sick stomach, bowels regular, and had taken a fair amount of nourishment. On examination I found the abdomen slightly distended, abdominal walls distended and hard over the whole right side of abdomen, and tender on pressure over a greater portion of right side below margin of ribs, but particularly so near the umbilicus. Percussion showed a very slight dullness in this region. No tenderness, or

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pain or swelling in the region of the liver. A distinct line of resonance between the dullness to the right of ambilicus and the liver dullness. I gave a hypodermic of one-fourth Morph. and one one-hundred-and-fiftieth Atropia. Advised warm fomentations over abdomen, and opiates to be repeated if necessary. The following day his condition was unchanged except that he could lie down in bed, but preferred to sit in a chair, said he suffered pain all the time, and had taken opiates every two to three hours, temperature and pulse the same. The following day, on March 6th, I found him in much the same condition, excepting the dullness on the right side had increased and there was more swelling and distention of right side of abdomen. I then insisted on his removal to the Cottage Hospital, which I had advised before, and after his removal there, ordered fly blister four by four over dullest point, and opiates as before. From March 6th, until March 21st, it was necessary to keep him more or less under the influence of opiates by the use of one fourth gr. codeia every three or four hours, or an occasional hypodermic of morphia. The codeia acted well in relieving the pain, as it does generally in abdominal pains, and is preferable where opiates have to be continued and cause constipation. With this patient the bowels would always become loose with dark thin greenish stools, unless some form of opiates other than codeia was given once in twenty-four hours. He took a limited amount of nourishment of milk, beef tea, scraped beef and soft eggs, with an occasional egg-nog. His temperature ranged from 100 to 103 F., with no daily exacerbations. His pulse from 70 to 95, respiration normal at all times, except for a day or two when a slight bronchitis arose. On March 17th, he complained severely of rheumatic pains in wrists and shoulder joints. One wrist was swollen very much during the day. This had almost entirely disappeared the next day. The appearance of the abdomen remained almost the same during this fortnight, or now about 21 days from the first. I decided to pass an aspirator needle, which showed a small quantity of yellow bloody fetid pus. March 21st, the patient being etherized and the ordinary preparations made for a laparotomy, a vertical incision three inches long was made in the right hypochondriac region, commencing two inches below the cartilaginous margin of the ribs, and ending directly opposite the umbilicus, one and one-half inches to the right. The incision was carried through the abdominal walls, and all bleeding points well secured before the peritoneum was opened,

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when we found the liver presenting and extending far below the wound. There was no adhesion between the liver, peritoneum and its corresponding abdominal covering, and this organ did not seem to press firmly against the abdominal walls. A finger could be passed freely between the two peritoneal surfaces. There was no bulging or prominence at any point of the liver, but a hypodermic needle now passed one inch into this organ showed the abscess cavity to be directly under the incision. There being some danger here of escape of liquids into the abdominal cavity, and on the other hand there being no apparent danger in leaving the abscess unopened a day or two more, it was decided to pack the wound with iodoform gauze and wait. Three days after, or on the 24th, the wound was first exposed, and showed the liver capsule firmly adherent at all points around the wound. I made a vertical incision directly into the abscess cavity, which was about one inch below its surface, and enlarged the wound with the finger. About ten ounces escaped at once of a purulent dirty fluid containing gas, sloughey shreds of liver substance, some bilious, and some brown, of a strong fecal odor. Then we attempted to wash out the abscess cavity with a warm hydronaphthal solution, when a tough loose sac made its appearance at the opening. By examining this carefully it was found to be free in the abscess cavity, and securing it with forceps and enlarging the wound we drew it out and found it already ruptured, but not sufficient to empty itself. It measured three and one-half inches long, and the circumference at the thickest part was four inches. It was a single cyst with a tough leathery lemon colored membrane, and almost the exact shape of a Bartlett pear with a long sharp neck. I show you the cyst wall here, as carefully preserved as I could. It contained a dark brown liquid, but no pus. After the cyst came four or five ounces of the same character as before it, when the water returned unchanged. A rubber drainage tube four inches in length was inserted, the wound dressed with iodoform and iodoform gauze, carbolized absorbent cotton, and flannel bandage. Little or no blood was lost. The patient was put to bed and the dressing changed once in twenty-four hours, when the abscess cavity was washed through the drainage tube with a warm solution of creolin, 1 per cent. I do not think there was four ounces of pus escaped all combined after the first dressing, and the temperature of the patient never rose above 99. In one week after the abscess was opened he was able to be up and walk around the room.

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THE PRESENT STATUS OF HERNIA OPERATIONS.

By J. W. Kime, M. D., Fort Dodge, Iowa.

Mr. President and Members of the Iowa State Medical Society—Were it not that my subject is very much simplified by reason that I can briefly say of a large majority of hernia operations that they have been abandoned, I could scarcely presume to enter upon the consideration of so broad a question in so brief a time. But the methods accepted by surgeons of the present day as truly meritorious are few, though the radical operation which is to cure all hernia and annihilate the lucrative truss business is still undevised.

Few surgeons have as yet reached that state of advancement where they must not still decide, in any given case, whether to use the truss, the knife, or leave the patient to palliatives and to the kindly processes of nature. The variety of hernia, its reducibility, the condition of its circulation, its size, contents and complications; the duration of its strangulation; the age, condition and circumstances of the patient; the efficiency of truss pressure and many other data still constitute the premises upon which the careful surgeon bases his conclusion.

There can be no doubt that many cases of hernia have recently been subjected to operation by various methods that should have been treated by less heroic measures; and there is danger of the radical operation falling into disrepute, except as an addendum to herniotomy made necessary by strangulation, unless greater care is exercised in the proper selection of cases for operation.

The surgeon may show as much learning and skill, and frequently far more honor his profession, in withholding operative measures, as in performing briliant feats upon patients who are either not benefited thereby or immediately take their departure to the great beyond.

These facts may not be pleasing to the ambitious operator, but the profession insists upon their observance.

At a meeting of the New York Academy of Medicine in January of the present year it was plainly the sense of the society that many of the cases reported as cured by various methods had since relapsed, so that it was at present impossible to get correct statistics of any of the recent operations, none of which have passed the experimental stage. During the discussion DeGarmo, a leading authority on the subject, but who strongly inclines to the mechanical treatment, stated that the

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reason he did so few herniotomies himself was, that it kept him busy fitting trusses to the patients the other operators had cured.

The truss, though old as the human race, is not a useless appliance of the past. It still continues preferable to operation in all cases of simple reducible hernia where truss pressure efficiently retains the viscera within the abdominal cavity. Radical cure operations are yet too unreliable to be advised where æsthetics or convenience only recommends them; though we are aware that certain surgeons advise operation in such cases, especially if occurring in children who may, during a lifetime, be burdened with a truss; but until they show us that operative measures are harmless and quite certain to effect a cure, or that we are warranted in sacrificing a certain number that the remainder may be more comfortable, we will continue with the truss.

It has become an established principle of surgery that op eration should be advised in all cases where the rupture can be replaced within the abdomen, but is not held there by means of the truss; though rarely in these cases is more accomplished than the contraction of the hernial aperture to such an extent that the truss will retain the protrusion.

To this rule exception may be taken only in the aged or otherwise debilitated where much danger to life would be entailed by operation.

In irreducible hernia, especially if painful, the demand for operative measures is still more imperative, but in these cases we are often compelled from non-consent of the patient to use, for a time at least, some form of appliance, as the elastic bandage or the truss with concave pad. In this connection I will state that I have three times used the concave pad in irreducible hernia; in two it failed completely, in one of which I operated, while the third must soon submit to operation. The case operated was Mrs. S., aged 44, incarcerated femoral hernia with cystic tumor of omentum; operated Sept. 8th, 1888; omentum and cyst removed; wound closed by deep and superficial sutures; relapse of hernia six months later; truss pressure now very efficient. Rupture has not been down for nearly one year.

In incarcerated and strangulated hernia after reasonable attempts at reduction have been made, and in gangrenous states, we have no choice but to operate, unless the patient is already moribund when coming under our care. These latter only should be denied the advantages of operation and left to nature's own resources. But it is truly wonderful what this

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intelligent agent can accomplish without our assistance. A case occurring in the practice of my colleague, Dr. Ristine, of Fort Dodge, and to whose kindness I am indebted for the particulars, tends to make us feel that we are not always the sine qua non in these matters that our professional pride incites us to assume.

Fifteen years ago the doctor was refused an operation on a severely strangulated hernia. In due season an artificial anus formed which, under pressure of a pad, gradually closed, and the man is now enjoying health at the age of 75, with only a cicatrix in the groin to remind him of the doctor's certain prognosis.

Owing to the great frequency of oblique inguinal hernia, it has been the ambition of surgeons to devise an operation that would be both safe and certain to effect a cure. Hence, the many procedures recorded in text-book and journal which not infrequently promise more than experience, at least in the hands of other operators, will warrant. Of these that have now taken their place on the historical page of hernia operations are: The use of caustics to the interior of the sac; Heaton's injections of tincture of iodine and other irritants which excite inflammatory action; scarifications of the sac; and the subcutaneous wire method of John Wood, of London; though some may insist that these various methods should still be classed among the legitimate operations of the day.

The radical cure operations now prominently before the profession have for their foundation principles the complete obliteration of the hernial canal, and the restoration of a smooth peritoneal surface on a level with that of the general peritoneum about the internal ring.

This is to be accomplished by either of two methods, the "open" or the "closed." Of the latter, Macewen's is the one most widely and most favorably known; of the former, McBurney's is the type. Macewen, after carefully dissecting out the sac, exposing it well up to the internal ring, passes a suture in such a manner that the sac is folded up into a shield or boss and pressed firmly into the internal ring and upper portion of the canal. The wound is then closed by means of sutures and healing takes place by first intention.

The bossing of the sac is applicable only in those cases where it is comparatively thick and in a healthy state; when injured or sphacelated and in congenital or infantile hernia it of course cannot be done.

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This operation and its modifications have the advantage over the open method of a speedy recovery, and should a truss be subsequently necessary the cicatrix is much better adapted to support its pressure. When the sac for any reason is found unsuitable for bossing it may be ligated at the internal ring, cut away and the canal closed with sutures as before.

Ball dissects out the sac as high as the internal ring and twists it on itself and thus obliterates it. This plan is inapplicable in the same cases where Macewen's bossing cannot be done, and has the additional disadvantage that in the hands of an experienced operator other structures than the sac may be readily included in the twist.

Other operators have ligated the sac, cut and sutured it in situ; ligated, pushed it into the ring, sutured it there, and closed the canal behind it; while more recently Bryant, of New York, slits the pillars of the ring and, after ligating the sac high up, weaves it back and forth through the slits across the canal, which he treats either by the open or closed method, as may be indicated in each individual case. His report is premature, and the original plan of ligating the sac has already been abandoned, as in one case it sloughed, necessitating reopening of the wound; this, together with the fact that one other relapsed, and that he reports but three cases, does not give us a favorable impression of his plan. He now proposes to scrape the interior of the mouth of the sac and pin about one fourth inch of it shut with a cat-gut suture and interweave the sac. We await his experience.

Weir's method of transplanting a portion of the scapula of a dog over the hernial aperture has not yet been reported upon, either as to the effect upon the patient or upon the canine, but there are many chances of its being unfavorable to both.

Of all operations now before the profession that of McBurney reported (Medical Record, March 23, 1889, New York,) February 1889, is the one most prominent and promises the best chances of care of any yet devised. This has as its principal objects the securing of smooth peritoneal surface with ample backing in the hernial canal, by means of a dense cicatrix formed from granulation tissue from the very bottom of the wound, and by the drainage it secures, reducing the minimum of the risk of septic process or purulent infiltration. After carefully dissecting out the sac, and excising the omentum if present, he ligates the neck on a level with the peritoneum surrounding the internal ring. The sac is then cut away

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and the wound sutured in such a manner that it must remain open. This is accomplished by deeply inverting the skin into the wound and stitching it there. The canal is now firmly packed with antiseptic gauze, especial care being exercised to secure firm pressure at the internal ring. The entire wound heals by granulation. No truss is subsequently to be worn.

At the time his report was made McBurney had operated thirty-one times with the following results: Deaths 1, relapses 1, unknown 2, still under treatment 3, cures 24; total 31. Of these, twenty-one cases were of less than one, and all but two of less than two years standing—so that at the time of this report the operation had not yet stood the test of time.

Of it we can only say that it promises more than any other operation so far devised; but that it is radical in the sense of cure in every case, it is not; nor in the hands of the general operator is it devoid of risk to life. The necessary handling of the peritoneum must of itself unavoidably prove fatal in some cases.

In view of the fact that should a radical cure fail to be obtained, a truss cannot be so well borne as in the closed methods, the primary cures from the open method must be greatly in excess to insure final benefit to the patient.

Of five cases of non-strangulated hernia I have seen operated by McBurney's plan one, in Bellevue hospital, proved fatal within forty-eight hours of operation. The others were still under treatment when I left the hospital. There are few subjects, either in medicine or surgery, that demand so ready and accurate a knowledge of what to do and when to do it as in strangulated hernia. There is no time for the perusal of books or refreshing our anatomical knowledge. The best methods of operating and their technique must be constantly in our possession, nor should our knowledge stop short of actual experiment with the intestinal suture or intestinal anastomosis; for in these cases where the gangrenous portion is high up in the intestinal tract no other means can possibly save life; but this procedure cannot be undertaken with any hope of success without that previous training which can be obtained only from vivisection. A case recently coming under my observation painfully impressed upon me the importance of what I have stated. A lady, aged fifty-six, strong and robust, consulted me on May 28, 1888. Diagnosis of incomplete, irreducible, femoral hernia was made and treatment advised. Patient refused to accept the diagnosis, as ten years previously a promin-

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ent surgeon of Chicago had pronounced it an inginual gland. (And here I may remark that no mistake is more easily made and none more fatal to the interest of patient). July 2, '88, complete strangulation occurred and a homeœpath was called, who failed to recognize the true state of affairs. He, together with his consultant from Des Moines, finally pronounced it an abdominal abscess. The abscess opened over the crural canal and its discharge was faeces. Food and homeœpathic pellets, in the shape of allopathic capsules, shortly made their appearance through the mysterious orifice.

On November 2nd I was called to make a post mortem on the case. On my arrival at the house I was informed that I would find an opening in the lower portion of the stomach, communicating with the abdominal cavity, or abscess cavity, which was a synonymous term, and that this cavity discharged at the groin.

It is needless to state that after so lucid an explanation as this a post mortem almost seemed unnecssary. With little difficulty I found the opening in the lower portion of the stomach, but unfortunately it was a very normal pylorus. The intestine was also normal to a point 11½ feet below the stomach, where the ilium was fixed in the remains of the femoral canal.

Nature had made a noble effort and though ignorance opposed her in many ways, succeeded in forming an artificial anus, though too near the stomach, and death from inanition finally ensued.

Riedel also reports a case where inanition ensued, in which the opening into the intestine was eleven feet below the stomach, but was also eleven feet above the cæcum. While in the case here reported the distance above the cæcum was about five feet; still death from inanition ensued.

The surgeon would have three opportunities to save this life. First by herniotomy before gangrene occurred; second, by incision into the gangrenous mass, thus limiting the process of decay; and later by intestinal suture.

The problem of hernia is an old one. Even the Divine Architect in constructing the physical man, it would seem, considered it, but was unable to pass the cord and vessels from the abdominal cavity, without leaving a weakened point of resistance in its walls; and even since that time, man has had trouble in keeping his viscera within his abdomen; and after all the investigation and surgical skill that has been applied in the solution of this problem, the pessimist might, with much color

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of consistency, assert that it is at least very doubtful, if ever an operation will be devised that will give much better results in these cases than are now obtained.

Mrs. S. aged 44, has for the past three years had frequent attacks of pain in abdomen, supposed to be colic, also nausea and vomiting. November 16, 1887, examination shows a small hard swelling about the size of the end of the little finger at the site of the left femoral ring; it is painful, tender, and irreducible. Diagnosis, strangulated femoral hernia, morphia and ice reduced the inflammatory symptoms, and on November 22, I again tried to reduce the rupture, and, failing, applied a concave pad. This did no good whatever, and the attacks continuing, she finally consented to operation, which was performed September 8, 1888.

In the meantime, however, a physician had diagnosed an inflamed inguinal gland, showing how easily a bubonocele or small femoral hernia may be mistaken for a harmless affection.

At the time of operation the tumor had increased to the size of a hen's egg, and had risen above Poupart's ligament. Much of this recent and rapid enlargement may be due to the formation of an omental cyst. The cyst was carefully dissected out and together with the omentum, ligated high up, and removed.

As the attacks of pain were always just previous to menstration it was thought that the cyst might be ovarian, and the hernia one of the ovary; but I also notice this liability to attacks of strangulation just before menstruation in another case of the same kind which is now under observation. So it would seem that these recurrences are in some degree occasioned by the pelvic influx at the catamenial period.

The small intestine, in the case of Mrs. S., was very much thickened, of a dark red color, and firmly adherent to the cyst, so that in tearing it loose, considerable oozing took place from the congested intestine, which was carefully staunched before reducing the gut and dropping back the omental stump into the abdominal cavity.

The wound was closed by deep and superficial sutures, and was entirely healed in eight days, but a small amount of pus discharged for four months at the site of one of the sutures. At the end of this time a piece of silk was removed from the wound, and the discharge promptly ceased. Patient is now, April 1, 1890, perfectly well, but wears a light truss for the greater security it affords.

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DISCUSSION.

DR. E. F. CLAPP—Mr. President: This is a most excellent paper. The time is too short to discuss this paper, but there is one little remark I wish to make, which has not much bearing on the operation; in regard to the suggestion which he made as to the design of the Creator in creating this canal as imperfect. Now, I object that the Creator should not be charged with any mistake in the construction of this canal, for I suppose when He constructed the individual to walk on all-fours the canal was all right and hernia was unknown, as hernia in four-footed animals is; but the individual got up onto his legs thereby flying in the face of the Creator and thereby created more pressure than the viscera would stand. I hope the doctor will take that into consideration in his next paper.

CONTUSIONS OF THE ABDOMEN.

E. H. KING, M. D., West Liberty, Iowa.

Among the many injuries to which the abdomen is liable from the many forces which are purposely or accidentally set in motion, contusions stand foremost in frequency of occurrence. In this class of injuries the integument may be more or less contused or even lacerated; or it may be so slightly injured as to scarcely show by mark or discoloration the force of the blow received or injury sustained. So, too, the effect upon the abdominal muscles may vary from a slight contusion, resulting in but little swelling and tenderness, followed by complete recovery, to laceration or pulpification terminating in abscess and suppurative destruction of tissues. In general, owing to the protection afforded by the clothing, but more particularly to the great resiliency of the abdominal parietes, the latter may sustain but slight injury, and inspection reveal but little to indicate the nature or extent of the injury which the internal organs may have received. The manner in which the force has been applied will often indicate the nature of the lesion which we may expect to find. A sharp, quick blow, like the kick of

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a horse or the impact of a flying missile, will be more liable to cause rupture of internal viscera than a slowly crushing weight.

Morris (International Enc. Surgery Vol. V, 855) estimates that about three-fifths of the cases of abdominal contusions recover without serious symptoms, in less than one-fifth peritonitis will follow and in more than one-fifth rupture of the viscera will complicate the contusion or will occur without any apparent injury to the parietes. Besides the injury to the external walls, blows upon the abdomen have caused contusion, laceration and rupture of the various organs and vessels within it, and secondarily to inflammation of the part injured and to local or general peritonitis.

As injuries of the internal organs are more or less associated with those of the abdominal walls, the accompanying symptoms will likewise be considered together, prominent among which are shock, pain, swelling, tenderness and ecchymosis. Shock is an uncertain symptom in all abdominal injuries. It may be severe in slight injuries that end in recovery; it may be absent, especially at first, in cases that terminate fatally. Blows upon the epigastrium are invariably accompanied by shock and cases are recorded (International Enc. Surgery, Vol. V, page 866) in which it had an immediate fatal effect. This is undoubtedly due to the effect upon the sympathetic, through the solar plexus. Shock is usually a prominent symptom in laceration or rupture of internal organs or vessels. It may occur at once upon the receipt of the injury or at a later period. When absent at first its later appearance is of serious import. Pain is a prominent and valuable symptom. In simple contusions without internal injury it is rarely acute, if rest is maintained and the abdominal walls undisturbed by vomiting, coughing and other movements. Persistent pain from the first depends upon internal rather than external injury. But appearing several days after an injury is indicative of a freshly lighted peritonitis or to a parietal abscess. With shock and pain there is often associated more or less restlessness accompanied by pinched features and an anxious expression of the countenance. Swelling and ecchymosis largely depends upon the extent of the contusion and subsequent effusion and extravasation, modified to some extent by the region injured. Tenderness may be local or general. When local and immediate it depends upon parietal injury or that of the viscera contiguous. When general tenderness is present it can only be the result of general peritonitis. Both circulation and tem-

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perature will be more or less affected according to the amount of shock and subsequent inflammatory action. Care must be taken to differentiate between the effects upon the circulation of shock and internal hemorrhage. Also keep in mind that a sudden fall of high temperature to normal or below, unaccompanied by a fall of the pulse, or amelioration of serious symptoms, is the sure precursor of collapse. Tympanites is a secondary symptom occuring at a variable period after the injury, and points to peritonitis or to intestinal inflation. When dependent upon visceral peritonitis effusion will sooner or later occur, in which case there will be dullness on the sides and lower part of the abdomen, though resonant above. The bowels will generally be obstinately constipated, nausea will be a frequent symptom and retention of urine not uncommon.

In making a diagnosis in cases of recent contusion of the abdomen great care and circumspection should be exercised to distinguish between injuries to the external walls and of the internal organs, and to judge how far the symptoms present are dependent upon either or both. The region of the injury should be carefully examined and the extent and nature of the parietal damage estimated, after which every organ contiguous should be closely scrutinized and from all the signs and symptoms present a diagnosis be formulated. Yet in many cases typical symptoms may at first be absent and time be required to arrive at a correct conclusion. With a pallid countenance, with or without pain, increasing prostration, feeble pulse and restlessness, we should distinguish between shock and internal hemorrhage. If the hemorrhage be profuse the abdomen may become distended and dull on percussion. Rupture of the gall-bladder, stomach, bladder or intestines, with extravasation of their contents, will give rise to violent peritonitis and in general be accompanied by extreme shock and pain. But cases are recorded of rupture of intestines in which violent symptoms were absent for several days.

In blows upon the hypogastric region the bladder is liable to be injured. In rupture of that organ, shock, pain, collapse and rapidly ensuing peritonitis from escape of urine into the peritoneal cavity, are the general symptoms. We may also expect to find bloody urine and a frequent desire, but inability, to urinate. But in rare instances the urine may be clear.

Morton (Med. News, Oct. 6, 1888, Ed.) has suggested the injection of hydrogen gas into the bladder as a test for this injury in doubtful cases. His plan is, I believe, practicable and

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has the additional merit of being harmless. It has not, to my knowledge, ever been put into practice.

It must be borne in mind that bloody urine is not a symptom of vesical injury alone. It may arise from contusion of the kidneys, in which case there may be pain and tenderness over the region of the injured organ. Laceration of the kidneys will give rise to profuse hemorrhage. If the bleeding be intra-peritoneal there will be dullness on the sides of the abdomen in proportion to the amount of the fluid present. It may however be post-peritoneal and the extravasation be limited to the lumbar region. Rupture of liver, spleen or omentum will give rise to profuse and exhaustive hemorrhage.

The prognosis in all abdominal injuries should be extremely guarded. The contained organs are very liable to suffer interruption of function from slight disturbances. They are prone to take on inflammatory action from even trivial causes. The external mark of a contusion may be insignificant, or absent, and serious visceral injury have been sustained; shock, pain or tenderness may be but slight or wanting, and internal damage be sufficient to cause a fatal result. Carefully examine the case in every detail, and then wait before giving assurance of recovery.

The accepted plan of medical treatment in this class of injuries, past and present, may be briefly formulated: Rest, opiates, and fomentations, hot or cold. Rest, as in all injuries, is absolutely necessary, and to rest of body, I would add rest of function of any injured organ, so far as it can be secured. Opiates are invaluable for the relief of pain, and contributing to the comfort of the patient. But given as a routine practice, in view of its being a specific in preventing peritonitis, as somehow the profession has been taught to believe, is, I believe, a pernicious practice, which has caused much harm. Opium and expectancy has been the key-note which has lulled many a surgeon into indolence, only to be aroused to find his patient beyond his care. The expectancy, we all should learn, is to know what to expect, and to be on the alert to meet any emergency as it may arise.

Shock, if present, should receive prompt attention, with hot applications, ammonia and ether. Pain should be relieved by the judicious use of opiates. In parietal contusions, after full reaction has occurred, cold applications will be grateful to the patient, and limit the effusion. They will be of benefit also in slight forms of internal hemorrhage. In contusion of

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the rectus muscle its sheath may become distended by effusion or extravasation, which should be relieved by puncture, and if subsequent abscess occurs, by free incision.

The general concensus of opinion of the profession has been against the use of cathartics in abdominal injuries, especially among the advocates of opium, as a preventive of peritonitis. Excluding cases of rupture of the stomach and intestines, where its use would be inadmissable in many cases, the prompt use of a saline cathartic is a remedy second to none in preventing this troublesome sequelæ, promptly unloading the bowels, relieving tympanites and congestion. It should be given at or before the onset of the inflammatory process. After general visceral peritonitis has supervened, effusion has occurred, and the intestines become œdematous, sodden and lifeless, the use of cathartics of any kind would be useless, if not harmful.

The plan of surgical treatment of contusions of the abdomen has been definitely outlined only in part. Swelling, extravasation, or abscess of the parietes, are to be treated upon general principles, keeping in mind that purulent collections behind the transversallis, or lumbar facias, or the sheath of the rectus muscle, will tend to internal, rather than to external, escape, and therefore should receive early attention and free exit allowed.

It is in the injuries to internal organs that surgery in the past has been in a state of indecision, laboring under the belief that the admission of air to the abdominal cavity was of itself an almost fatal procedure. Surgeons hesitated, gave opiates and waited, hoping that the hidden injury was not of itself sufficient to cause a fatal result, and time alone solved the problem, The elder Gross, over a quarter of a century ago, in writing upon internal hemorrhage from penetrating wounds, says: "When there is reason to suspect that a large artery has been opened, the most effective practice will be to cut down upon the parts and apply the ligature. Such a proceding, desperate as it may seem, would certainly be preferable, when the wounded artery is within reach, to letting the patient die of hemorrhage." (Syst. of Surg., Vol. II, page 609, 4th Ed.)

I know of no record that this had ever been done, but this utterance of a master in surgery shows a progressive spirit, and a prophecy of future practice.

During the past decade a revolution has occurred in regard to the surgery of serous cavities, and as soon as it dawned

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upon the surgical mind that the admission of air, per se, was of but little moment, there was developed an eagerness for abdominal operations that became an almost criminal recklessness, from which careful and conservative surgeons have learned valuable lessons, not the least among which is, that under proper aseptic conditions in explorative sections of the abdomen, the intrinsic risk is not great, and in serious conditions will not materially add to the gravity of the case.

Laparotomy is an operation frequently performed at present, and is a recognized and justifiable procedure in many cases. The great danger lies in its application to unsuitable or unnecessary conditions. No one will deny its propriety in intra-abdominal tumors. It offers the only alternative for the life of mother and child in deformed pelvis, or other conditions preventing delivery per viam naturalem. It is recognized as proper in ectopic gestation, pera-typhylitic abscesses, for the radical cure of hernia, for intestinal obstruction, and in gun shot and penetrating wounds of the abdomen, with injury to viscera or vessels. It has also been proposed and successfully practiced in peritonitis with purulent effusion.

As a remedial measure in non-penetrating injuries of the abdomen it has only recently been employed. I have been able to find the record of only 45 cases, (T. S. K. Morton, Jour. Am. Med. Ass'n, Jan. 4, 1890), to which I append another from my own practice, (Med. News, March 1, 1890): The first operation was by Willet, in 1876, for rupture of the bladder. The case ended fatally: Hofmokl operated 1883 for same lesion, with recovery of patient. There have been 27 operations, in which there was rupture of the bladder, with 10 recoveries; in 11 cases there was rupture of the intestines, with 1 recovery; in two cases there was rupture of the spleen, in one of which there was also rupture of the kidney, and in each there was fractured ribs, both fatal.

In one case there was ruptured gall-bladder, fatal in 17 days. There was also fracture of the tenth dorsal vertebra. The patient had jaundice and the autopsy revealed the common duct occluded by a gall-stone.

In one case there was rupture of the right lobe of the liver, and a branch of the portal vein torn. Fatal.

In one case there was contusion of the colon. Fatal.

In one case there was contusion of the mesocolon and pancreas. Fatal.

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In one case there was contusion of the colon and omentum with rupture of a branch of the pancreato-duodenal artery. Recovery.

There is no question but that cases of laceration or rupture of the viscera, from either penetrating or non-penetrating traumatism, should be treated upon the same general plan, and where the diagnosis is plain, I think there will be but little difference of opinion among surgeons as to the proper plan of procedure.

Cases frequently occur, however, in which the indications are not clearly defined, and where the symptoms are indefinite or are in abeyance, and yet the patient's condition steadily grows worse, and the only definite indication is toward a fatal termination. In such cases, when shall we abandon the expectant and resort to active surgical treatment?

A case in illustration:

E. A., a healthy farmer boy, aged 12, was kicked in the abdomen, just below the umbilicus, by an unshod horse. Much shock, pain, nausea, vomiting and restlessness ensued. A slight red mark showed where the blow had been received. There was no swelling or oedema of the external tissues. Urine clear and freely voided. Rest, opiates and hot at first, afterwards cold, applications was the treatment given.

Sixteen hours after the injury: Pulse 120, temperature 100½, abdomen tender and tympanitic; countenance pale and anxious. Sal Rochelle was ordered every two hours. The cold applications being agreeable, were continued. Enemas were also used, but only resulted in emptying the rectum.

Twenty-eight hours after injury. Pulse 120, temperature 101. No opiates since began giving salts. Abdomen largely distended; restless, but no severe pain. During the next six hours he vomited several times. There was mild delirium, and the stomach became intolerant of everything offered it.

Thirty-six hours after injury. Pulse 140 and very weak; temperature 97; abdomen enormously distended; tympanitic above, and dull below the umbilicus; countenance pinched, pale and anxious; no action of bowels since the accident; rolls from side to side; moans, but says he has no pain.

The sudden fall of temperature below normal, the increasing rapidity and weakening of the pulse, with the cessation of pain, and the depressed appearance of the patient, led me to believe that gangrene of the intestines had occurred. I gave an unfavorable prognosis, and suggested an exploration of the

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abdomen, with a view of resecting the gangrenous part if it should be of limited extent. Assent was readily given, and I immediately began preparations for the operation, which was performed six hours afterwards, or 42 hours after the injury had been received.

Drs. Kimball and Emmet Ady were called to assist. These gentlemen carefully examined the patient, and gave their unqualified opinion that collapse was occurring, and that a fatal termination was to be speedily expected.

The family was cleanly, and the surroundings were in good sanitary condition. Aseptic and antiseptic precautions were used in the operation. The rectus muscle was discolored, and a greenish serum escaped when it was cut into. The abdomen contained considerable inodorous, bloody serum. There was intense visceral peritonitis. Organized lymph existed in patches and in bands, extending across the folds of the intestines. The greater omentum was also covered with lymph, in the midst of which was a black spot ¾ of an inch in diameter, and at a point where the force of the blow had been received.

The intestines were inflated, deeply congested, oedematous and lifeless, so far as any functional activity was concerned. They were turned out of the abdomen and enveloped in warm moist aseptic towels. Sea ch was made for gangrenous spots, but none were found.

As the intestinal inflation was so great that their return into the abdomen would be difficult, I tapped with a large trochar, and drew off over a pint of liquid contents, and much gas, which so reduced their bulk that they were returned without difficulty. The perforation was closed with a cat-gut Lembert stitch. The abdomen, freed from lymph and serum, was closed with silk sutures, leaving a drainage tube in the lower angle of the wound, which was dusted with iodoform, covered with protective bichloride gauze, and the usual abdominal bandage.

At close of operation, pulse 150; very weak; gave hot whisky per rectum, and heat applied externally; reaction slow but steady. Great complaint was made of a burning pain in the wound, to relieve which, ¼ gr. morphine and 1-150 gr. atropia was given hypodermically.

Six hours after operation pulse 140, temperature 100. Twenty hours after operation pulse 120, temperature 99. The dose of morphine and atropia had been repeated, which was all the opiates he received or required. Enemas of soluble beef

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were regularly given; he was given, per orem, five grains salol and ten grains powdered charcoal, the salol as an intestinal antiseptic and the charcoal as an absorbent and for another purpose which will appear further on. Serum escaped from the drainage tube the first and second days. It was removed the third; his kidneys secreted freely and the bowels moved spontaneously the third day. The charcoal appeared in the feces on the fourth which gave assurance that the intestinal tract was open throughout its entire length and danger of occlusion from adhesions was to be no longer feared. After the appearance of the charcoal in the feces the enemas of beef were discontinued and liquid food was given per orem. He steadily improved from the hour of the operation and his recovery was complete. He is living to-day a healthy boy.

I was particularly impressed with the oedematous and lifeless, or, as Senn aptly terms it, paretic, condition of the intestines, and realized how futile any attempt would be to try to excite peristalsis by the use of cathartics. This paresis was also shown when perforation was made to relieve the distension. Gas and fluid escaped only from the immediate vicinity of the trochar and manipulation of the intestine was necessary to force the contents along to the opening.

The gangrenous patch of lymph on the omentum showed that the attempt at organization of the exudate had failed and its death was occurring. The serum being inodorous the abdomen was not irrigated nor was there any antiseptics used within its cavity. I was not aware at the time of this operation of any precedent for the surgery of this case. There was general peritonitis with effusion; there were no definite symptoms of injury to any particular viscus; nature with the aid of rest opiates and fomentations had signally failed; death was imminent, and opening the abdomen, under proper precautions, aside from the shock of the operation, would scarcely add to the gravity of the case, and the success attained corroborates the opinion and justifies the work. The query arises, what part of the operation, if any, contributed towards the relief of the patient? There was:

1. Drainage of the abdomen. In visceral peritonitis with effusion, the exudate becomes organized in part. The remainder either becomes absorbed or undergoes decomposition and becomes more or less purulent, generating poisonous ptomaines, to which the patient rapidly succumbs. Free drainage removes this source of danger.

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2. Cleaning off the organized and dying lymph. The bands of lymph seen upon opening the abdomen, if undisturbed, would have bound a large mass of the intestines together, which would have seriously interfered with their peristalic action if not producing constriction or occlusion. The dead lymph upon the omentum would have inevitably produced trouble had it been allowed to remain.

3. Relief of the distended intestines by puncture. To crowd a mass of inflated and inflamed intestines into a cavity too small to accommodate them would subject them to unwarranted violence. Relief from both external and internal pressure favored re-establishment of free circulation by which congestion was relieved and absorption promoted.

Each of these procedures seemed called for and doubtless were necessary factors in securing a favorable result. All was done that seemed necessary and nothing was done without a reason. So far as I am able to ascertain this is the second successful, and the fourth operation, for contusion of the abdominal viscera.

1. Chevassee, in 1885, opened the abdomen of a patient aged twenty-three, cause of injury not given. The colon was badly contused in two places; intestine and meso-colon was infiltrated with blood. Nothing was done towards remedying the injury; death occurred in six days.

2. M. Chauvel operated in 1885; patient kicked by a horse. General peritonitis supervened and abdomen was opened the third day; no lesion was discovered; death occurred in four days after the operation. The autopsy revealed contusion of the transverse meso-colon and right half of pancreas.

3. McBurney, of New York, in 1889. Patient aged twelve, fell across a railroad rail. There was profound shock and pain in back; later the abdomen was flat, with dullness in the flanks. Operation eight hours after injury; there was a quart of free blood in the abdomen; extravasation about colon and omentum; a branch of the pancreatico-duodenalis artery ruptured and bleeding, the artery was ligated and abdomen cleansed. The boy made a good recovery.

4. E. H. King, West Liberty, Iowa, Aug. 19, 1889, boy aged twelve, kicked by horse. General peritonitis and great distension of abdomen; indications of collapse after thirty-six hours. Abdomen opened forty-two hours after injury. Effusion of bloody serum; organized exudate, which was beginning to become gangrenous on contused omentum;

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intestines much inflated, oedematous and paretic. They were tapped, letting off gas and fluid; abdomen cleaned of lymph and serum and drainage kept up until third day. Boy made a good recovery.

CONCLUSION.

Aside from measures to relieve the shock which may be present, the indications in non-penetrating traumatism of the abdomen are to differentiate between hemorrhage from rupture of internal viscera of vessels, rupture of viscera with extravasation of contents and contusion of viscera or of the abdominal parietes alone.

If internal hemorrhage be profuse the only remedy is to promptly open the abdomen and secure the bleeding vessel. In doing this the abdominal cavity as soon as opened should be packed with aseptic sponges and pressure maintained while systematic search is made for the bleeding point.

Rupture of the parenchyma of a kidney will seldom call for interference, as the hemorrhage will cease in a short time; if the renal vessels or ureter be involved nephrectomy will be required; in rupture of the spleen if the hemorrhage cannot be controlled by iodoform gauze packing the organ should be removed. Hemorrhage from the liver must be controlled by packing or by the cautery.

Rupture of the viscera with extravasation of contents also calls for prompt abdominal section. In suspected rupture of stomach or intestine, inflation with hydrogen gas will materially aid in making a diagnosis; inflation of the intestines will elevate the area of hepatic dullness, while inflation of the peritoneal cavity will completely abolish it. The same test may also be applied to the bladder.

Rents in the hollow viscera must be remedied by appropriate suturing, the abdomen thoroughly cleaned and irrigated with hot water which has been sterilized by boiling, and provision made for drainage before the wound is closed. Every aseptic precaution should be taken when making the operation, but antiseptics should not be introduced into the abdomen. If it be determined that neither hemorrhage or visceral rupture complicates the injury, the prompt action of a saline cathartic will do much towards preventing subsequent peritonitis. If however, peritonitis with effusion occurs and the accompanying symptoms progressively point towards a fatal termination, ab-

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dominal section should be performed and search made for visceral lesions, the nature of which will determine the course to pursue.

The study of laparotomies for abdominal traumatism teaches that success largely depends upon early interference, and that delay is responsible for many a fatal issue.

DISCUSSION.

Dr. Hobson, of Bristow—Mr. President: I wish to say that the paper was very interesting to me. More so from the fact that last fall I had a case exactly similar to what the doctor described. It was a kick by a horse on the abdomen just as the doctor describes and my patient took just the course his did and I was rather timid to operate, and did not operate, although I thought very seriously of the operation, and my patient died and his got well.

Dr. Rawson, of Corning—Mr. President: I see here there are two cases; one operated upon and recovered and the other not operated upon and died. Last winter I was called in consultation over a case in our vicinity of contusion of the abdomen, and the only remarkable thing about it was hemorrhage from some source by the way of the urinary passage. Now there was no special swelling or enlargement of the abdomen. The case was a young man about 25 years of age, sound, hearty and well, and undoubtedly after careful examination over the hypogastric region the conclusion was arrived at that there was no injury to the bladder, and undoubtedly owing to the entire absence of symptoms in connection with the intestinal canal, that it was all intact. It took a great deal of care to come to the conclusion that the hemorrhage came from the kidneys—the right kidney. There was more or less pain there, but that was not excessive; in fact, it was rather a marvel to see how little uneasiness or pain there was in the right lumbar region in the vicinity of the kidney. There seemed to be virtually nothing to do except to let the patient alone. There was no collapse, virtually no fever and no elevation of

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temperature at any moment. The conclusion was that we had better see what nature would do. The suggestion was to operate in the lumbar region to investigate a supposed injury of the kidneys. Contusion of the kidney was the only conclusion we could come to; but, after all, we concluded to let the matter lay from day to day, and gradually the hemorrhage ceased or began to lessen more and more, and several weeks ago it had entirely ceased and the patient is undoubtedly recovering. I expect to see the patient in a few days, but the last I heard from the case was that he was recovered so as to be able to be up and about and help himself, but not able to do any special work. Now, this is a case where it was entirely let alone and by the utmost caution all movement prevented, and trusting to just his own recuperative powers; this is one case recovered without operation.

Dr. Scofield, of Washington—Mr. President: It occurred to my mind that there should be but very little difference in operating in a case of peritonitis whether it be an idiopathic or traumatic lesion, and while listening to this paper, with which I am heartily in accord, it occurred to me that if the surgeon is justifiable in operating in such symptoms of traumatism, why would he not be justifiable in the large class of cases, such as were spoken of in the afternoon session, and why should not the practice of the surgeon in a certain class of cases be extended for peritonitis and expect to cure with all the certainty that has been secured in this case? It seems to me that the discussion of this question is opening up a wider field of usefulness in this operation. I am aware that the operation has been performed and with a measurable degree of success. I am not conversant with any medical man or acquaintance who has performed the operation without a vague idea at least that there was some intestinal laceration that required operation to stop the hemorrhage or remove the abdominal swelling. But, if I understand, as I said before, the purport of the essay is that it ought to be just as applicable in those cases of peritonitis arising from different cause, inasmuch as no particularly visceral

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lesions were found in those cases cited. I can see no good reason why there should be any diminished chance of successful operation.

Dr. King—Mr. President: In relation to the case reported by the Doctor in regard to contusion of the kidneys, I have no doubt but he diagnosed the case correctly, and I should say that, in such a case, there would be no reason for the interference of surgery; no indication in such a case as he has cited why he should not. Not every case of contusion of the abdomen necessarily demands operation. It is those cases where nature and rest fail, and the case is steadily growing worse, and the indication is that the patient is going to die, and before that point is reached we shall interfere. Where shall we cease this expectant treatment and adopt an active treatment? In this case the Doctor related, he says there was no shock, no evidence of hemorrhage or injury to the kidneys except what was passed from the bladder; he excluded injuries to the intestines or the bladder. It is a well known fact that the kidneys may be contused and considerable hemorrhage ensue, and that hemorrhage may not always escape; of course the urine may be blocked up by a clot and yet if the obstruction does not become permanent the patient will probably recover; or may have a severe injury and yet recover; because it is a well-known fact that although the rupture is of the kidneys, it will soon cease, and unless the renal vessles be torn the contusion will not always injure life if you let it alone, and yet it is not always best to let nature alone. I had a case of that kind in my own practice and the case recovered. I had no thought of operation so long as there was any indication of the absorption of the hemorrhage and the patient held his own and gradually got better. With reference to Dr. Scofield's idea I simply can say this, where we have a case of peritonitis, so called traumatic or idopathic peritonitis, we do not know what causes them, but where we have a case of great distention of the abdomen we find upon concussion of the side we can readily determine by the inflation or the tympanites, if in the kidneys

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or else in the parietal cavity. In a case where we have gas or a distended abdomen from inflation of the intestines by gases, the liver will be crowded up and you will always find it in the hepatic duct, but if the parietal cavities become distended with gas that will crowd the hepatic duct and the gas insinuates between the abdominal walls and the liver and you get tympanites all over. I have no hesitancy, Dr. Schofield, in case I had a case of peritonitis, that was steadily going on to worse, and indications were that my patient was going to die, to open the abdomen to see what was the matter.

ADVANTAGES OF EARLY CORRECTION OF BODILY DEFORMITIES, WITH REPORT OF CASE.

By J. W. Cokenower, M. D., Des Moines.

The first case of tenotomy, for the removal of deformity, was recorded by Tulpius, who mentions Isacius Minius, a Dutch surgeon, who operated for torticollis or wryneck, in 1685. Other Dutch surgeons have left recorded cases, still the great value of the operation had not been thoroughly understood, for the great surgeon Boerhaave, and all medical writers of the former half of the eighteenth century, maintained the great sensibility of tendons and the danger of their sections, so that we find De la Lour Diere writes in 1742, as the closing words of a memoir, "the section of tendons ought, then, to be avoided." Tenotomy consequently fell into disuse for nearly a century. However, in 1742 Lorenz performed the first operation for club foot, by dividing the tendo achillis.

In 1803 Scarpa invented the first club foot shoe, and in 1812 Sartorus performed tenotomy successfully, and ineffectually tried to introduce the operation into Germany. From this date up to the present time, we are greatly indebted for the advancement of scientific knowledge and orthopedic surgery, to such men as Sayre, Diefenbach, Little, Price, Wright, Bonnet, Rogers, Richardson, Detmold, and many others, so that this branch of the science of surgery has kept pace with its sister branches.

The importance of the subject, no one can deny who pays the slightest attention to the numerous cases of malformation and deformity which we observe in everyday life. You can

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scarcely walk a block in the city, or visit any of the smaller towns of the state, without seeing malformed or crippled sufferers, whose countenance bear the impress of mortified pride at their unfortunate condition, frequently connected with expressions of intense pain, produced by their abnormal physical position; hence the paramount importance of this branch of mechanical and operative surgery, that gives to the human frame what vaccination has been to the human features. And as Dr. Sayre so truthfully said, "that the discoveries of Jenner had rid the world of a loathsome pestilence, and banished from our sight those disfigurations which made the most lovely lineaments and complexions hideous to behold, so will orthopedic surgery, by its magic touch, unbind the fettered limbs and restore symmetry to the distorted forms, give mobility to the imprisoned tongue, and directness to the orb of vision." Then, since there is so much importance attached to this branch of science, it naturally behooves the medical profession to look at the subject in its true light, with a view of bringing about the best results, with the least operative interference and as speedily as possible.

The first thing then to be considered is what operation will produce the best results, and what mechanical and therapeutical treatment is best adapted to the case. The second, and none the less important, step to be taken is at what age and under what circumstances should the operation be performed.

I think the general practitioners will bear me out in saying that one of the must stubborn obstacles they have to overcome is the tendency among their patients of deferring treatment, and often times not receiving medical treatment and advice until too late; so it has been my experience in orthopedic surgery that patients afflicted with club foot, talipes, caries, torticollis, spinal, paralytic, rachitic and especially joint disease, so often producing anchylosis, will defer treatment until too late to get satisfactory results, from what might have been a very easy operation if taken in time. Therefore, my limited experience has taught me, beyond any doubt, that the earlier the operation be performed, the better, so long as the life of the patient is not endangered, Especially so in the treatment of talipes, which should be commenced as soon as the child is born, or upon receipt of the injury; for every day, week, or month that the treatment is neglected, diminishes the chances of its success when finally resorted to. In congenital talipes, if treatment is begun at birth, we may reasonably expect that, by the time

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the child is old enough to stand, the feet will be so nearly in the normal position, that the attempt at walking will complete the cure, rather than aggravate the case, as it will do when treatment has been neglected too long. In a large per cent. of such cases treated from birth onward, the foot can be made to maintain the normal position without the aid of tenotomy.

I will report one case of congenital talipes varus with subject, selected from a number of operations I have performed, verifying the statements already made.

REPORT OF CASE:

On Sept. 17th, 1889, I waited on Mrs. M., residing at 1340 Madison St., Des Moines, Iowa, and delivered her, without any trouble or complication, of a healthy girl baby, with typical congenital talipes varus in both feet. The deformity was not a surprise to the parents, owing to similar ones occurring before among their relatives.

About thirty minutes after the child was born, I straightened both feet by manual force, and with the help of a good nurse, applied heavy paste-board splints, which held the feet in a normal position until the next day, Sept. 18th, I removed the paste-board splints and substituted moulded perforated tin splints. On Sept. 21st I removed the tin splints and used talipes varus shoes with steel braces extending to the middle of the thigh. The child wore these braces and shoes until Dec. 1st, when an ordinary infant shoe, with a stiff sole and regular weak ankle brace extending half way to the knee, was substituted. The little patient has worn these ever since, during the day only, and when not wearing the braces, can hold its feet and limbs in as normal a position as any child. The compression on the muscles made by the shoes and straps of brace did not interfere with the circulation or growth of its feet and limbs, and a more healthy child was never seen, and a better result could not have been asked for or expected, not even by the use of tenotomy.

DISCUSSION.

Dr. Rawson, Corning—Mr. President: I wish to say that I had one case which was treated in the main just as has been reported that was successful. Another case should have been so treated, but, as he says, there were objections made to handling

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the case because of its being tender and young and all my entreaties in respect to the case were of no avail. That difficulty exists to-day; she is now a little girl of about four or five years of age and the deformity is still existing on that foot. But here is one point that I would like to ask some light upon if there is any. There are cases, I believe, where I think they may not be restored to their proper shape from a mere atrophy of the limb or rather an absence or want of development of the limb. The foot, ankle, and limb generally to the knee will not fill and increase in unison with the opposite one. And with such a case as that I hardly see what we can do to compel that limb to keep up with its fellow. The use of electricity has been recommended and has been used and some times massage and the use of appliances will succeed; but I do think, however, that it is not best to be too certain, because if there is a constitutional inability, which I believe there may be, to keep up with the opposite, the result will be in vain.

Dr. King—Mr. President: The point is certainly well taken. I know of a case years ago in which was talipes, and I found the deformity of the rectus femoris muscle, and there was no necessity of tenotomy. In studying out that case, I found there was almost complete paralysis of the peroneal muscles. I treated the case with proper shoes to keep the feet in place; I did not consider there was any use of tenotomy because the foot could be easily restored in position and the child wore shoe and brace in proper shape and we resorted to faradization; there seemed to be no effect for some time, but after a couple of years the child passed from my notice and this spring I came across it and I found the child's feet were in good shape. Now, I could not satisfy myself whether if faradization had been kept up, it would have done any good, but arguing from this position, the child is some five or six years of age, by keeping the feet in proper position these peroneal muscles asserted themselves and the feet are now straight. The point the Doctor suggests is a good one, but the parents will object, as he says. They think the child must not be kept up

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in straight shoes and I find it difficult to get them to consent. After while you have a child three, four or five or six years old brought to you and it is the first time you have seen it; there is indication there for tenotomy and after you find tenotomy necessary you find still further difficulty; you find that you have to sever the plantar fascia in order to straighten that foot out.

Sayre says in a contracted fascia, as he succeeds it is not necessary to sever the plantar fascia, but by the use of proper apparatus he can straighten the foot out and it will resume in time its proper position, but, in what he calls contracted fascia it may be substituted, and after the operation the proper apparatus. I have seen cases where even tenotomy is performed let the heel down and yet the foot would not straighten out; it was kept down in spite of us. In that case the contracted plantar fascia should have been severed.

Dr. J. W. Cokenower—Mr. President: I have not many remarks to make, only this: You may take a club foot, bow legs, knock knee and anchylosis of long standing and by means of braces or extension of counter-extension and by commencing it in time there is not any question in my mind at all about reducing the amount of cripples that walk our streets, and I think it behooves every physician to see to that one point. Whenever any of their patients have children that have deformities to see to them and see to them early, because the advantages will be far superior to what they will be later and you can get so much better result. It does seem to me we have all the things to encourage us that can be wished and nothing to discourage us, and very few parents, if you prevail on them, in the proper light, but will permit you to perform tenotomy or whatever may be necessary. The bones are then soft and the tendons elastic and you can easily cause them to contract or extend, so that you must remember it does a great deal for you then, much more than it would do in later years; so I am a great advocate of early treatment in correcting bodily deformities.

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PENSION EXAMINATIONS.

By JOHN P. SAVAGE, M. D., Sioux City.

Mr. President and Members of the State Medical Society:

It is not my object to discuss the subject of pension examinations in a political way, though it is a great leverage in politics with both democrats and republicans alike, in the way of obtaining the soldier's vote and by getting influence through the appointment of examining surgeons; but it is my aim to discuss it in a purely professional way, and to the manner of obtaining the best possible results in my opinion, to the soldier, to whom we owe our Union, and a proper compensation to the surgeon for his labor; the latter especially.

Let me first speak of the present mode of making these examinations and its advantages, then its disadvantages, and then give some suggestions for improvement. The claimant has made an application for an examination either through his attorney or to the commission direct, in a legalized red tape manner, and he receives an order to appear before some "board" (consisting of three surgeons), or before a "single surgeon" on any Wednesday within three months from date thereof for a medical examination, upon which examination is to be fixed a rating, or pension, for the existing disability as a result of service. In a few instances these boards or single surgeons make these examinations only every other Wednesday. This at the discretion of the commissioner of pensions, as the circumstances demand, thereby diminishing the number of days within the three months that the claimant may appear. The claimant appears, is examined, the certificate of examination is properly filled out by the board or single surgeon, is forwarded to the Pension Department, there examined by a surgeon who either approves, increases, or decreases, the rate given by the Examining Surgeon, and in course of time the claimant either receives his pension, or the claim is rejected. Exceptionally is it rejected upon the suggestion of the Examining Surgeon, but more frequently for want of sufficient evidence on the part of the claimant that the disability for which he asks a pension was incurred in the service. The advantages of the present system are that it gives the claimant three months to report for examination, thus enabling the farmer to appear for such examination when it will neither interfere with the sowing, reaping, or garnering of the grain, the business man when the rush of a certain season shall have passed; the employe when it

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shall best suit his employer; the professional man when his duties will best permit. Owing to the great number of Boards and Examining Surgeons it enables the Department to send him not far distant from home, thus making the cost of going to the place ordered for examination a mere trifle. It also enables the Department to send him to one or more Boards without great expense, that the various reports made by the different Boards may be compared at Washington, thus permitting, possibly, a wiser and more satisfactory adjudication of the claim. We know that there are certain disabilities from which a claimant may suffer more at some one time than at another, and he may present himself for examination when at his best, but if sent to a Board, the members of which are personally acquainted with him, and who see him almost daily, they can more properly rate him, than had he been sent to a strange Board in a strange locality. And this in a measure accounts for the difference in reports made by different Boards, and in fact, by the same Boards upon the same case.

Now let us speak of the disadvantages: The compensation received by each surgeon for these examinations is $2 for the first five, and one dollar for each additional examination made upon any day, till twenty shall have been made, then $2 for each additional examination made upon that day, "provided." says the law, "that all examinations shall be thorough and searching and the certificate contain a full description of the physical condition of the claimant at the time, which shall include all the physical and rational signs and a statement of all the structural changes."

What does this mean? It means a very thorough and searching examination must be made in the majority of cases for the meagre sum of $2 and sometimes for $1, that we otherwise would get $15 to $25 for. Yes, but some one says, you are helping the poor soldier; not a bit of it, as far as pay to the surgeon is concerned; all fees are paid by the government, the soldier being put to no expense, excepting to appear for examination, and yet the examining surgeon does as much for the soldier as any one can do. Let me take for example, and there are many just such, an examination made by the Board of which I am a member, on March 19, 1890, and having made the five examinations for which we were entitled by law to receive $2 each, it was of course made for $1. Mr. ———, late a cor'pl Co. B, 187 Reg. N. Y. Inf't'y, an applicant for original invalid pension No. —, on account of disabilities from malarial pois-

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oning: Rheumatism, disease of heart, disease of stomach, chronic diarrhoea, piles, disease of liver, disease of kidneys, disease of eyes resulting in partial blindness, injury to back, and partial paralysis of left leg.

I am, Mr. President, inclined when such cases present themselves to utter the response to the Episcopal prayer "From all such good Lord deliver us." But it may be said this work on your part is not compulsory. Very true, but by the sweat of your brow shall you earn your bread. It's not charity, it is hard work and work that no one except a member of our profession can do. It's too low an estimate put upon the services of one who belongs to the grandest profession on earth. What is required by such an examination? In the special instructions given to surgeons, we find as examiners we must comply with the following rules:

1st. You must give in writing the claimant's statement or the subjective symptoms in way of description of his disabilities be they one or eleven, as in the case I have cited. Then you give in writing his pulse rate, his respiration, temperature, height, weight, age; then you are to give in writing a full description of the disabilities and not only to what does exist, but of what does not exist as far as the disability is concerned. And these instructions complied with in the examination of this claimant for the magnanimous sum of one dollar! Have not the members of both Houses of Congress a high opinion of our services, both democrats and republicans alike, for the law governing fees to examining surgeons was not changed under a democratic administration and with a democratic majority in the House of Representatives. We, as examining surgeons, have made an effort to change this but, with no success; let us not tire, but rather let us enter upon it with renewed force. While we may be conscientious, honest, and try to do justice, is it to be supposed that we will make as thorough an examination of such a case as just cited for the pittance of $1 as we would for a just and proper compensation? It doesn't seem to me human nature. And right here, although diverting from the subject, let me say it is about on a par with the $1 and $2 fees that Life Insurance Companies pay when they expect us to go through a man from head to foot, and upon this $1 or $2 examination they will place insurance ranging from one to five thousand dollars. This is another thing we should endeavor to rectify. The laborer is worthy of his hire. Such an examination as I have cited cannot be made as required and written

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upon the blanks furnished under several hours time, let one be ever so expeditious, to say nothing of the fact that every certificate of examination as sent to the Department at Washington must be copied in a record book word for word. Then too comes the daily reports and the quarterly reports, the latter in duplicate, that must be sent with each day's work. These give the name of the claimant, whether it is an increase application or an original one, with its number, as well as the Regment, Company, and fee due each surgeon for each examination, and all this written without extra compensation unless it be that the board agree out of their own money to pay the Secretary a certain percentage for his labor. This, I think, should be done in every instance. I, as Secretary, receive 15 per cent. of the receipts of each member of the board.

At the meagre sum of $2 and $1 for each examination there was paid by the Pension Department as fees to examining surgeons throughout the country the sum of $569,950.63. Of this amount the examining surgeons of Iowa were paid $41,-699.69, not including those made for navy pensions which would probably make it in round numbers $42,000. There were on the first day of November, 1889, seventy examining boards and fifteen single surgeons in the state, making a total of eighty-five examining bodies, and there being three members to a board would make two hundred and twenty-five examining surgeons. Divide the $42,000 annually paid to surgeons, by the number of surgeons, and it will give $186 per year for each surgeon, provided the examinations were made equally per board and single surgeons. United States Examining Surgeons are paid by the quarter. This then would make an average of $46.50 per quarter for each surgeon, or $15.50 per month, or an average of $3.87½ per week, or day as they only meet once a week, with few exceptions when they meet once in two weeks. What a reflection upon a noble profession —$3.87½ per week! Yet, we are not paid a regular salary, only paid for the work we do. The highest number of examinations made by any one board in our state per year is five hundred and twenty-eight, or an average of forty-four per month, and this at Des Moines. The lowest number is sixty per year, or an average of five per month. These averages have been made from figures sent me in answer to a circular of inquiry I sent out to each examining surgeon in the state. The number appearing before each board cannot be regulated by the Department as it must vary in each locality, principally upon

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the density of soldier population and the facilities for applicants reaching certain points where boards meet at the least possible expense to the applicant.

Now, the suggestions I have to make in way of improvement, both to the soldier and to the medical profession, are that all examinations should be made by boards instead of single surgeons and that there be as many boards, and no more, appointed in each state as can properly attend to the work, devoting their entire time to it, not allowing them to engage in any other practice. Their tenure of office being for life, or as long as professionally able to attend to it. Such appointments not to be made except upon the examination of applicant in a similar manner as done for admission to United States Corps of Army Surgeons; politics not influencing it in the least.

There were on the first of day of November, 1889, eight hundred and thirty-seven boards of examining surgeons and four hundred and seventy-eight single surgeons throughout the country, or a total of two thousand nine hundred and eighty-nine examining surgeons.

There are only two other states or territories having a larger number of examining boards than Iowa. These are Kansas, with 85; Ohio, with 73; then comes Iowa with her 70. As before stated, there are 2,989 examining surgeons throughout the country who were paid for services for the last fiscal year of the government, ending June 30th, 1889, $569,950.63, or an average of $190.63 each. There is on an average 21,000 examinations made annually in our states. Say there are three boards appointed for the entire state, that would give 7,000 examinations to each board per year, or an average of 135 per week, or an average of 20 per day; the number per day we are now permitted by law to make. Have these boards meet in the principal cities of the state at stated times, the claimant being notified, as he now is, when said board will meet for examination. This will make the expense to the claimant but a trifle more than it now is, and as the Boards make the circuit he may be made to appear before more than one Board, and the results compared, as they now may be. These three boards to be constituted as now, of three members, the Secretary of such board elected by the board, he to receive a percentage from the other members of the board for the extra work done by him. Three boards of three members each would make nine surgeons, and should they receive now what is paid to the surgeons of this state it would give each a salary approximately

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of $4,666.75, thus making it an object that they devote their entire time to it, or even a less salary would employ competent men and thus diminish the expense to the Government in this line, but possibly to only be not so well expended in some other way. Is it not to be supposed that the surgeon would more thoroughly do his work and the soldier receive a better examination for his pension? I think so. Of course this plan would have some objections, but less I think than the present mode, for the administration of the approximately $70,000,000 now paid annually in pensions, for which medical examinations have been or may be required. The aggregate amount of pensions now paid for all claims being about $150,000,000 annually. I desire at this opportunity to say that I am indebted for dates and figures to Hon. Green B. Raum, Commissioner of Pensions, Hon. Isaac Struble, Member House of Representatives, 9th District of Iowa, and to the Medical Examiners throughout the state.

DISCUSSION.

Dr. Getz, Marshalltown—Mr. President: I am a member of the association, and was rather pleased with the paper that Dr. Savage read. I have had a little experience as a pension surgeon under the democratic administration, and right here I want to say the matter of making a life lease of it might be all right if it was now a democratic administration. I necessarily object if it be not.

Now, I think, however, there are other objections to that. It would make a life lease, as I say, of it, and I am afraid the soldiers would fare less well than they do as it is. When men know they have a good thing for life, they are a little inclined to become indifferent in their work. I think that would be as true with special examiners as with the majority of men. Now, in regard to the best thing to do for the soldiers in making application, this occurred to me a number of times As he stated, they go to an attorney, and of all other men that know less about medicine than attorneys, I know of only one class and that is railroad ticket agents. But the attorneys want to get everything they can for the claimant and the result is often they get nothing; they will put in everything in the way of a claim to be sure that they get one, or, perhaps, all but the one

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that the individual is really entitled to a pension on. Now, it is not an uncommon thing to have an applicant come in with a claim for kidney disease; that is a very common thing as every pension surgeon will have experienced and the examination is made—urinary examination—and probably no difficulty found with the kidney at all. But the applicant is suffering from urethral irritation or irritation of the bladder, perhaps enlargment of the prostrate and so on. Now, what are we going to do about it? Can you give that applicant a pension? And if you do not he blames you for it. The difficulty lies in the manner in which the application is made. If these pensioners could always consult a competent physician and state the trouble or the way in which they are suffering and be advised and take that advice—and there is no difficulty in getting a physician's advice as long as they are not a member of the board—I think they would fare much better; think it would be a much better thing for pensioners to do.

Dr. Dean, Muscatine—Mr. President: It seems to me this paper ought not to drop here and as one of the few of the medical profession who do not understand this question and feel like saying anything on it, I think it would be preferable to refer it to the committee, and I would move that it be referred to a committee appointed by the chair and also that some time be set when the committee shall report upon it.

Dr. Sill:—I do not know, Mr. President, what can be gained by referring this to a committee. I do not know of but one way to dispose of it and give it any advantage above what it has got and that would be to place it before the board of supervisors of Clayton county. The only mystery there is about this pension business is these candidates have had the chronic diarrhœa for over twenty-five years and they are fat. I cannot understand it. If the kidneys are not diseased they have got a good dodge; they fall back on diarrhœa and they get a good pension. I think we may as well let'er rip.

Motion lost.

Motion that it be referred to the publication committee carried.

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Section on Ophthalmology and Otology.

THE IDEAL OPERATION FOR CATARACT.

By W. C. Pipino, M. D., Des Moines.

After holding sway for nearly thirty years it now seems probable that Graefe's operation for cataract is to be supplanted by one performed nearly a century and a half ago. A "survival of the fittest" it would seem. After all these years of faithful trial by the most expert and skilled ophthalmologists of the various methods and modifications that have been introduced for the extraction of cataract, we are about to return and give preference to the simple flap extraction.

History informs us that it was Daviel, a French surgeon of Marseilles, who performed the first operation for cataract extraction in the year 1747, by making a long corneal section, using a lance for puncturing, a two-edged knife for enlarging the puncture, and scissors for finising the flap. We are informed that the first modifications that were made by his successors, were in the instruments used; the knife of Richter appearing in 1773, twenty-six years later.

In 1813 Beer's triangular knife was introduced. The next step in the line of improvement was to bring the base of the flap nearer the horizontal diameter.

In 1862 Moreau performed iridectomy with flap extraction. In 1865 Von Graefe introduced what is known as Graefe's peripheral linear extraction. This is the operation that has held undisputed possession or preference at the hands of the majority of operators until quite recently, when its superiority began to be questioned. At present there is a strong tendency to return to the original flap operation, and indeed there are good and sufficient reasons, as I will endeavor to show. One would naturally come to the conclusion that better vision would be secured from a round moveable pupil, than from an irregular one. And such is the fact. The coloboma caused by the muti-

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lation of the iris has always been an annoyance to the fastidious operator. The unnatural and enlarged pupil causing more or less loss of acuity of vision, besides the unsightliness is constantly a reminder of the surgeon's knife.

Schweigger, of Berlin, writing on the "return to the flap operation" says, "one of the interesting changes in the ophthalmology of the present day is the return to the old method of cataract operation. The restoration of sight with the preservation of a round and movable pupil is undoubtedly one of the greatest operative achievements. How was it possible that we could have renounced the attainment of this ideal from the beginning? In order to answer this question we must go back thirty years. Ophthalmology at that time was dominated by the overpowering impression of the cure of glaucoma by irridectomy which, of course, was just as inexplicable then as it is now; then somebody or other invented the magic word of "antiphlogistic" iridectomy, and that became the cure, not only for existing but also for anticipated inflammation. Since then reason is being restored, and the time is not far distant when iridectomy will only be performed in complicated cases.

In a recent article on the subject Dr. Ayres says: "To extract the lens and preserve the shape, size and activity of the pupil and at the same time improve the vision must certainly be the aim of the operator and must constitute the ideal operation."

Thus you see that this movement is bound to command attention, as it is engaging the minds of some of the most eminent ophthalmologists both in Europe and America. The question naturally suggests itself. If the simple extraction is the best operation, why was it ever discarded? To answer this question properly requires much time and reading. I offer the suggestion, however, might it not be due to our increased knowledge obtained from the experience of our most eminent ophthalmologists, who are becoming more expert as operators as their experience increases? Or might it not be due to the fact that we look to men of great opportunities for guidance, and sheep-like, follow in their tracks? Again, the danger of iritis, prolapse, and imperfect coaptation of the flap, I think, is greatly exaggerated. It cannot be denied that the advances made in antiseptic measures has diminished the danger of these operations as it has in any other. I am a firm believer that the less we disturb the iris (as by iridectomy), the less is the risk of iritis. I have yet to see the escape of the vitreous in the

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simple extraction, which is more than I can say for the linear extraction with iridectomy, as I have some experience in both. To successfully remove a lens without iridectomy, and thus obtain a round movable pupil, is the final purpose which every conscientious oculist hopes to attain. It must be remembered that simple extraction is not possible in all cases. There are complications where the Graefe extraction would do better.

Dr. Knapp, whom we all recognize as belonging to the front rank, says: "If I review my cases the opinion is forced upon me that the simple extraction is not only the best, but the safest method of removing cataract. The iris which is spread out as a *velum interpositum* between the corneal section and ciliary body, protects this, the most susceptible part of the eye, from the deleterious substances that may enter through the wound."

He gives a record of 1000 cases operated upon by him, the first eight hundred by the linear or Graefe operation, and the last two hundred by the simple extraction. In the first three hundred he had 91 per cent. of good results, 3 per cent. of imperfect results, and 6 per cent of loss.

In the fourth and fifth hundred, 82 per cent. of good results, 6.5 per cent. of moderate results, and 11.5 per cent. of total loss.

In the sixth hundred, 89 per cent. of good results, 1 per cent. moderate results, and 10 per cent. total loss.

In the seventh hundred, 88 per cent. good results, 7 per cent. moderate results, and 5 per cent. total loss.

In the eighth hundred, 90 per cent. good results, 8 per cent. moderate results, and 2 per cent. total loss.

The ninth hundred cases were operated upon by the flap method without iridectomy, and the good results are apparent at a glance. Of these there were 96 per cent. of good results, 3 per cent. moderate results, and 1 per cent. total loss, while in the last hundred cases, operated upon by the same method, the results are still better, 97 per cent. good results, 2 per cent. moderate results, and 1 per cent. total loss.

These results speak for themselves, especially so when we remember how rare it is to obtain vision of $\frac{20}{20}$ after Graefe's method, and how frequently vision of $\frac{20}{20}$ is obtained after simple extraction without iridectomy, showing without a doubt the superiority of the one over the other.

DeWecker, Panas, Galezowski, Schweigger and others claim equally good results. During the last winter I have operated upon eleven cases by the flap extraction without iridec-

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tomy; the results obtained are sufficiently encouraging to warrant a continuance of the method. The first case operated on was Mr. E., age 74, senile cataract; both eyes unable to distinguish fingers. Both eyes were operated upon at the same time. Operation smooth. Perfect recovery with round, movable pupil, with + 11. D vision $\frac{20}{20}$. Has since written me letters expressing his gratitude in once more being able to shoot squirrels.

Case No. 2. E. H., age 34, semi-hard cataract in both eyes. Cannot count fingers with right eye, but can with left. Right eye operated upon without iridectomy. Operation smooth and quick, spontaneous reduction of iris, pupil round and movable. Six weeks after operation with + 11. D sph. ⌒ + 1. D cyl. 110°, vision $=\frac{20}{20}$.

Case No. 3. W. H., age 64, senile cataract in both eyes, unable to count fingers. Left eye operated upon, flap extrction, round movable pupil, with + 10 D vision$=\frac{20}{20}$.

Case No. 4. Mrs. J., aged 69, senile cataract, both eyes operated upon by flap extraction with cut iridectomy. Corneal incision smooth, and pupils black; immediately after operation could count fingers; recovery uninterrupted, with +11 D vision $\frac{20}{20}$.

Case No. 5. P. E., age 30; zonular cataract in both eyes. Flap extraction under cocaine, pupil round and black. Second day after operation, plaster was removed, eye examined, the anterior chamber was found to contain pus, corneal wound united. Eye was kept bathed with a solution of bichloride 1-4000 and a few drops of the same instilled between the lids every third hour. In three days, pus absorbed and cornea clear. At present with + 11 D sph ⌒ + 1 D c 90° vision $\frac{20}{20}$.

To economize time and a useless repetition of reporting the other cases, I will simply state that nothing occurred during the after treatment worthy of mention and the results were good.

It will be noticed, however, in the case last reported, had the plaster not been removed and the eye inspected there is no doubt but what the eye would have been lost, but the timely application of the bichloride prevented the destructive process. Had the old plan of dark room, eye bandage and let alone treatment been practised, the patient would now be mourning the loss of an eye. In marked contrast to the cases just reported as having been operated upon and the good results obtained, I will mention a case of an old gentleman upon whom

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the modified linear operation was performed on account of posterior synechia. It would have been impossible to remove the lens by the flap operation, so iridectomy was made. Six weeks after the operation in trying to correct the aphakial with lenses, he was found to have an astigmatism of 4. D, so with a + 11. D sph. ⌒ + 4 D cyl. 180° his vision was brought up to $\frac{20}{20}$. In this connection I might here remark that my experience so far warrants me in saying I have met less astigmatism following the flap extraction without iredectomy than I have the peripheral extraction with iridictomy.

A 4 per cent. solution of cocaine is dropped upon the cornea at intervals of two or three minutes. It rarely requires more than three drops to completely anaesthetize to the cornea and render the operation painless.

All of these cases were operated upon at the hospital, waited upon by skilled attendants, and all the antiseptic precautions taken. In none were the patients confined to their beds with heavy bandages and darkened rooms. Indeed, all the "needless and annoying restraints" were removed. The patients are allowed to walk from the operating table immediately after the operation to their rooms. On the second or third day they are permitted to walk around on the outside of the building. I have yet to regret the privilege allowed these unfortunates. In one case in particular that was operated upon at the institute when a conjunctivitis sprang up on the third day after the operation, the patient was restricted to his room as a precautionary measure. Although no bad results followed the conjunctivitis, the patient lost his appetite and about 15 pounds in weight. Being an individual accustomed to outdoor life from youth up, the confinement told rapidly upon his general health. Notwithstanding Schweigger's advice to the contrary, I invariably remove the dressing, viz: a strip of isinglass plaster on the second day, and inspect the eye to see if all goes well. On two occasions I have thus been able to save the eye operated upon by the timely instillation of "eye drops." It might be urged that it is meddlesome curiosity to inspect an eye so soon after an operation, and consequently bad practice. It has been my experience to see eyes cut clean through the cornea by foreign substances, inspected daily, lest iritic inflammation or other trouble should occur unobserved, get well. If such eyes do not suffer from inspection, why should an eye operated upon for cataract under strict antiseptic precautions suffer? The truth of the matter is, we have been need-

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lessly cautious in the past, and entailed an unnecessary confinement of our patients in a dungeon cell, causing them to do just what we wish to avoid, viz., to put themselves into a nervous state which is anything but conducive to perfect healing of the corneal wound.

DISCUSSION.

Dr. Hobby—Mr. President: I was very much interested in this paper, interested in cataract, and the conclusion of the paper I am in hearty accord with. There are some points, however, in connection with it that I desire to refer to. In the first place the return to flap extraction at the present time I don't think is due to increase in the skill of the operator, but is due to the two inventions in ophthalmic surgery that have been brought about within the last ten years—and to subsequent treatment of wounds by the use of cocaine as an anaes. thetic. Graefe's extraction was never completely accepted. Baker used the expression many years ago when in such an aesthetic city as Paris it was not permitted to mutilate the pupil, still when he made an extraction he made it linear. Iridectomy was not peformed, but a small portion of the circular fibres; cut a small portion so as to relieve the pupilarus sphincter; the effect was oval pupil scarcely recognizeable from the normal pupil when examined. Knowlty not only practiced so late as 1880—I believe as late as 1880—he did as late as 1876 I know, the old extraction with Beer's knife, and inclined to use iridectomy and achieved very successful results, but in addition to that he used the adhesive strip over the eye in place of the bandage. The reason why he returned now to extraction, I believe is in the line that I have mentioned, as the iris brought under the influence of cocaine, does not present the irritation from the instruments used either in extraction or of the lens itself in passing through the pupilarus space as it did in former times before the use of cocaine. In the next place we do not encounter the separation of the cornea as we did in days before antiseptic surgery. Indeed

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I have but one separation in some one hundred and fifty operations—something that in former times could not possibly occur. The reason why I have declined to follow the suggestions of Hans Knowlton under my first experience some twelve or fifteen years ago of the use of a simple dressing of a strip of isinglass placed across the lids and moderate confinement of the patient, was because I encountered at that time trouble, while the patient was not restrained by any bandage, the accident from the unfortunate impinging of the thumb on the globe and re-opening the wound and a destructive hemorrhage within the globe and since that time I have used and shall continue to use some protection to the globe externally; not that I think the wound heals any more readily.

Though I think to enable us to return to the former method of extraction without mutilating the iris lies in the fact that we now use cocaine and antiseptic method, but were we to be deprived of cocaine the return to the former methods in order to attain anything like the success attained in the operation for cataracts in days before the use of cocaine and antiseptic surgery.

Dr. Kinnier—Mr. President: The paper is interesting and I like it, but I don't like the title. I regret that any operation should be called the ideal operation, because circumstances alter cases. And I believe that the operation is a good one, and I also believe that it will largely explain the degree of superiority it has gained over the other operation; in fact I do it myself. Yet I have nothing to regret in making iridectomy. The last thirty-four cases of cataract that I have had there has not been a failure among them; not a failure. Iridectomy has been made in most of them; with the exception of a very few, iridectomy has been the rule with me. It is true we get a better pupil without iridectomy; we get a nicer pupil; things look nicer; nothing remains for the surgeon, the operation has been performed; only the heavy glass which he has to wear before his eyes. Yet I believe antiseptic treatment has something to do with its success. I do not believe many dan-

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gers looked upon superficially as the result of iridectomy are to be feared. I think the doctor spoke of one of the cases—he will pardon me if I say it was conjunctivitis—in which he had iritis. Now I believe that to be so. I will tell you where I think the danger lies in the operation of iridectomy. I believe that a great part of the danger lies in the improper way of operating—the improper restoration of the iris, in that we allow the iris to be incarcerated and allow it to remain so in the corneal wound. We must expect failure, subsequent iritis, impaired vision, and bad results on the whole, with the exception of a very few cases, with antiseptics such as we have at the present day; that is if we make our wound in such a manner that we can properly restore the iris after iridectomy, I do not think we have much to fear; I do not give myself a particle of uneasiness. It is true we may not have the iris in such a way that its fibres will contract so that we can see the round normal pupil. In many cases they glue the iris to try to help the wound in order to avoid that. I believe there has been mentioned the following rules in making the section: First, that the section be made sufficiently large so that the corners of the wound will not pinch the iris. Second, that the section be made within the limbus. I was some years ago making the section directly within the limbus, but now I do not do so; I make the section entirely in the cornea; I believe that it is a good plan. There are some little difficulties that always attend any extraction; there are some classes of people that we can always handle and handle easily, some patients will object to you while others will not. There is something peculiar about nationality, in that the German will always obey you; the Irish will not—you cannot control them. They are not so easily to be depended upon, but you can control the German and you cannot control the Irish, without difficulty. I have noticed that thing in nationalities. In one of the things that I found difficult to do I will tell what I did. That is in extraction where you can not get your patient to look down. If you are operating on the patient, for instance, making an operation on the right

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eye, the left eye is open and not anaesthetized. The best you can do is to make them look down while operating on the right eye and the left eye is not sufficiently confined; tell them to look down—to look at your feet. They will tell you they can't, sometimes, and if you get a little bit irritated, out of patience and say some things you ought not to; I mean when you swear at them, which I think a man is justified sometimes in doing under circumstances, when I am troubled in this way, I am in the habit of cocainizing the other eye; anaesthizing it thoroughly and putting in a speculum so they cannot close the lids. I do that many times; I believe it is a good plan; I don't do it always, but I have done it and I would do it again; because I believe it is a good plan.

Dr. Dalby, Cedar Rapids—Mr. President: There is one little remark I want to make in regard to the paper of Dr. Pipino, which he has entitled the ideal operation, and that is just simply offering the suggestion of cutting off the eye-lashes close to the margin of the lid before the operation and prevent them from being entangled with the secretion from the eye, which causes it to become dry and causes a certain amount of irritation. I think that will be found to be a very advantageous decision.

Dr. Pipino—Mr. President: I have nothing to say in closing the discussion. The very fact that the paper has brought forth this discussion is a sufficient compliment to me. I only wish it would have brought a great deal more gunpowder out than it has.

NERVOUS TROUBLES FROM EYE STRAIN.

By Dr. W. H. Kinnier, Dubuque.

Mr. Chairman and Gentlemen of the Society:

The topic I now take the liberty of bringing before you is no doubt is one of the most interesting and, I think I might be pardoned for saying, one of the most important subjects attracting the attention of medical men to-day. Every physician who has made an extensive study of this subject will, I think,

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concede that eye troubles are the cause of many distressing nervous complaints, the best proof of which exists in the brilliant results obtained by the careful treatment of ocular errors. Many diseases declaring themselves by nervous manifestations, occurring at almost all ages and in all classes of society, have defied the power of drugs and resisted all kinds of treatment, but have readily yielded when a refractive error was corrected or surgical interference restored the equilibrium of the ocular muscles. It would be most interesting to review for a moment, the labors of some of those who have been most eminent in investigating this special study, but the time usually alloted to a paper like this will not permit me to do so and I will content myself with presenting the matter as I understand it and relating what I have observed in my own practice. In order that I may be thoroughly understood in what I desire to explain hereafter, it will not be out of place for me to first consider briefly the physiology of vision and the mechanicism of accommodation. In what I have to say I will make no attempt to be scientific; all I want, is to clearly express my meaning and be correctly understood. When a healthy and perfectly shaped eye is directed to an object, a well defined image of the object so fixed, is found on the retina and at once conveyed to the fibres of the optic nerve and thence to the brain. What I mean by a perfectly shaped eye, is one similar to Fig. 1,

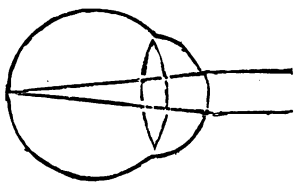

FIGURE 1.

in which parallel rays of light are brought to a focus at a point on the retina when the eye is in a state of rest. Now when such an eye looks at objects around a room, or at things sufficiently distant that rays coming from them are parallel or practically parallel, it still remains at rest and for perfectly distinct vision no effort of the visual apparatus is required. But while the eye sees these distinct objects with perfect ease, if a small object, such as ordinary print, is brought close to the eye, an immediate change takes place. The ciliary muscle contracts and produces an elongation of the ciliary process, pushing it

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nearer the lens and relaxing the suspensory ligament allows the lens from its own elasticity to assume a greater convexity, thus increasing its refractive power. This is called accommodation and is never accomplished without an effort. Suppose for example we have an eye in which from lack of development the antero-posterior diameter is shorter than normal, or in other words it is shorter than it ought to be—understand me correctly—the eye is not diseased, it is simply flattened a little from before backwards and the only cause that can be assigned for this, is that it did not grow the right shape. This is called Hypermetropia.

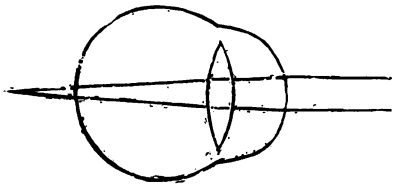

FIGURE 2.

Fig. 2 will give a fairly good idea of such an eye. Now let us see what takes place if this eye fixes a distant object. By comparing it with Fig. 1, which represents an emmetropic or normal eye, it will be seen that the antero-posterior axis is not sufficiently long to permit the refractive apparatus to bring parallel rays to a focus on the retina, when the eye is in a state of rest and the result is, the focal point lies behind the retina. To overcome this difficulty, the ciliary muscle contracts, and the greater the defect, the more vigorous and continuous efforts will the muscle make to overcome it and get clear vision. In moderate degrees of this condition the patients are able to overcome it in a measure by the active exercise of their accommodation while they are young, for in childhood and youth the lens is very elastic and the continual exercise of the ciliary muscle develops and strengthens it just as physical exercise strengthens other muscles, but the defect can only be overcome at any age by an expenditure of nervous force and sooner or later this force must be exhausted. Still the accommodation makes the effort, and to make matters worse this continual effort is made unconsciously and the result must be fatigue and final giving out of the power from which the supply has been drawn. Even distant vision in these cases can only be obtained by exercise of the accommodation and if such is the case, it is not difficult to understand that a very strong ef-

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fort must be made to get clear images of near objects, and to add to this accommodative effort, a proportionate effort is required from the ocular muscles in convergance, for if distinct vision is obtained, accommodation and convergence must act together hand in hand. Permit me to explain: If the eyes are fixed on a distant object the visual axes are parallel or practically so, but if the focus is now changed to a near object, as in reading, the eyes not only accommodate for the point fixed, but they must also converge for that point. There must not only be contraction of the ciliary muscle but there must also be forcible contraction of the internal recti, and the higher the degree of the ametropia the more vigorous effort will be required, not only of the accommodation, but also of the convergence. Now while it is possible for an individual with eyes so formed to see clearly for short periods, especially while they are young, if an additional defect is added to this trouble in the shape of an inequality in the curvature of the cornea which not only brings rays to a focus behind the retina; but where the focal point for rays entering different meridians of the eye is at different points on the visual axis and we have a defect that while uncorrected, must prove a constant and serious annoyance to the patient and cannot be overcome by any effort of the accommodation. This is astigmatism. Allow me to make clear what I mean by this. In an eye in which the spherical curvatures of the refracting apparatus (cornea and lens) are perfectly formed, rays of light are brought to a focus in a point at some place on the visual axis, but in astigmatism it is different, for while rays entering the pupil in the horizontal meridian may be accurately focused on the retina, the measure for vertical rays may be in front or beyond this limit and instead of clear vision there is only a blurred and indistinct outline of the objects fixed. This difficulty, however, is not confined to the principal meridians, for the same may be true of any of the oblique meridians. Patients suffering from refractive errors of this kind usually come to an oculist complaining that they do not see well, that they cannot read by lamp light and for a long time they have been unable to do fine sewing in the evening. When interrogated, they will often say they have been subject to severe and frequent headaches, but they frequently attribute this to other causes. Neuralgias are very common with these patients, and upon close inquiry it will generally be found that their headaches and neuralgia are coincident with the use of their eyes for near work. The strange

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part of it is, that they almost invariably ask for glasses to enable them to do close work and maintain that they see exceedingly well at a distance when their vision is frequently reduced to two-fifths or even one-tenth; and often when convinced that they do not see half what they can be made to see, they will still insist that they do not wish to wear "specs" on the street, that all they want is something that will help them to do their work, and even when it is explained to them that their distant vision, what little they have, is attended by a constant unconscious effort which is a severe strain upon the nervous system, and that the only means of relief consists in spectacles carefully fitted and constantly worn, and that stronger glasses than those needed for distance (if they are over forty years of age, to supply failure of the accommodation), will be required for reading and all kinds of near work; despite all this explanation many of them will persistently refuse to wear the distance spectacles until they learn from actual experience the benefit derived from their use. In addition to refractive errors, insufficiencies of the ocular muscles are at the present time receiving much attention. Grave nervous disorders are attributed by some eminent men to an unbalanced equilibrium of these muscles. Only a few years ago muscular asthenopia was almost wholly mentioned by writers in connection with insufficiency of the internal rectus in myopia. Now every occulist carefully notes the relative strength and action of his patient's ocular muscles and makes as thorough an endeavor to correct insufficiencies as he does refractive errors. I believe there is a great deal in this; but that some men in their zeal, have not placed it too prominently as an actual cause of great nervous troubles and claimed too much from treatment, is a matter that will be seriously questioned until farther proofs are brought fourth to place the claims beyond doubt. The fact that an individual has epilepsy and ocular defects is not sufficient proof that the former is the result of the latter, but is is sufficient to require careful treatment of the eye trouble with the expectation of marked improvement in the nervous malady. During the early years of my practice, from 1871 to 1876, several severe cases of chorea came under my observation. I call to mind seven of these cases, of unusual severity. Two of the cases were in my own practice and the others were under the care of neighboring practitioners. Five of the cases recovered under medicinal treatment and in two the disease became chronic or periodic. They would nearly recover and for irregular periods would seem

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quite well and then trouble would show itself again and so it continued for some years. I was then doing general practice, and soon after I turned my attention to ophthalmology I was consulted by every one of these seven patients for eye trouble. They all suffered from refractive errors. One of the cases that became chronic had astigmatism of only .75 D. in each eye. I corrected this in 1880, and since then she has been perfectly well, without any manifestation of the trouble from which she suffered for years. The other chronic case was not treated until 1883. She had compound hypermetropic astigmatism in both eyes and accepted + 2.25s. ⌒ + 1c axis 90° in the right eye and + 1.75s. ⌒ + 1c axis 90° in the left. She was given these glasses and the chorea at once disappeared. I saw her last July and she told me she had never been ill a day since she wore her glasses. I have seen cases of chorea in which there was no ocular trouble, but I am convinced that the two are so frequently associated and that the latter are so often a cause or a great factor in the cause that it is always proper to inquire into the matter by making a careful examination as soon as the nervous trouble declares itself. Aside from the nervous maladies already mentioned there are a great many distressing nervous troubles that can not be properly grouped under any particular head which are doubtless wholly due to ocular errors. Severe headaches, pains and other disagreeable sensations in the head and temples, down the back of the neck, in the shoulders and along the spine, with disordered digestion and nausea and vomiting aggravated by using the eyes for any kind of near work, such as sewing, reading or painting. These troubles might perhaps be grouped under the head of neurasthenia. I believe, however, there are frequent instances where they cannot be properly attributed to the eyes, and yet they may be cured by the correction of ocular errors. What I mean is this: an individual may suffer from any illness that produces nervous exhaustion and ocular errors may result in the form of muscular insufficiencies, and these in turn may not only aggravate, but prevent improvement in the condition that produced them, or in other words, the result may react upon the cause, and I have seen cases of this kind promptly relieved from the use of weak prisms for comparatively short periods. Most of the following cases have come under my observation within the last year, and while it might be claimed, by some, that sufficient time had not elapsed to test the permanency of the results, yet I am convinced the condition of all the patients

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prior to treatment, compared with their subsequent condition, is amply sufficient to justify all that is claimed. Miss E. R., age 31, milliner, who consulted me in June, 1888, has suffered for ten years with violent pain and distress in her head. She locates the pains over the eyes, in the top of her head and occipital region, has cramps down the back of her neck and severe pain along the spine. She says her head feels most of the time as if it were being twisted around and she has frequently fainted. She cannot use her eyes at all and if she rides she feels as if she were going to plunge out of the carriage head first. There is manifest myopic astigmatism of 1 D axis horizontal in both eyes, but under the use of atropine she accepts + 1 c axis vertical. There is also insufficiency of the right inferior rectus of 2°. She was given + 1 c axis vertical for each eye. She improved very much during the summer and September 1st again resumed her work as a milliner. During the winter her trouble increased and she returned for treatment in April. About the first of May a tenotomy of the right superior rectus was made, followed by marked relief in all the symptoms but on the fifteenth of June she had relapsed into her former condition and the same tendon was now divided more freely, followed by still more marked relief. In September she again complained of all her old ill feelings; she was gloomy and despondent and seemed to have lost interest in everything around her. Tenotomy of the left inferior rectus was now made, but the tendon being a little too freely divided, the effect was excessive, and a suture was used which sloughed and diplopia was the result. The tendon was now seized and brought forward and sutured firmly to its scleral attachment with two sutures of No. 1 iron dyed silk which were removed on the fifth day and the eyes were found to be parallel. Relief followed at once, all the old symptoms disappeared and at this writing, January 6th, she says they have never once returned and she feels well.

Case II. Miss C. R., age nineteen, has suffered during the last six years from chorea with almost constant headache. This patient consulted me in July, 1889. There was found compound hypermetropic astigmatism in the right eye and hypermetropia in the left. There is also insufficiency of the right superior rectus of 2°. The refractive error was corrected with the following:

O D + 1s ⌒ + .50c axis 90°

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O S + 1.25s and a tenotomy was made upon the right inferior rectus. Since then she has had no headaches and the chorea has also entirely disappeared.

Case III. Miss M. G., age sixteen, consulted me April 22, 1889. She complains of severe pain through her eyes and temples, has hypermetropic astigmatism of + 1.50 axis 75° in right eye and + 1.75 axis 110° in the left. She was given these glasses June fourth. She states that the pain in her eyes and across her forehead still continues when she tries to read, but also says her glasses are a great help. A partial tenotomy was made on the right inferior rectus followed by only slight relief. August thirteenth, the tendon of the right inferior rectus was divided except the very marginal fibres, but there is no relief of the symptoms and she cannot use her eyes for a minute without severe strain. October twenty-fourth, the tendon of the left inferior rectus was very carefully divided except the marginal fibres and was sutured firmly to its scleral attachment by two sutures of No. 1 iron dyed silk. This was done with the hope of getting sufficient contraction to make the visual lines parallel. The sutures were removed on the fifth day. Immediate improvement followed this operation. She rapidly gained in flesh and at this writing, April first, she reports being able to read and use her eyes continuously for any work without the slightest inconvenience whatever.

Case IV. Miss E. N. consulted me July 18th, and has suffered almost daily from headache for several years, was found to have astigmatism of + 1.50 axis 110° in the right eye with compound astigmatism of + .50s ⊂ + 1.50c in left eye, these glasses were given her and since that time she has been perfectly free from headaches.

Case V. Mrs. B., age 53, a stout German woman, came to my office September 16. She says she has suffered from headache for over thirty years, and in addition to her head trouble, when she reads or sews; pains run up her back and come directly to her eyes. She complains that she can no longer remember anything and says she feels confused all the time and never without pain in her head. She was found to have compound hypermetropic astigmatism in both eyes. Her refraction is

O D 3s ⊂ + 2.25c axis 120° = $\frac{20}{20}$
O S 1.50s ⊂ + 4c axis 90° = $\frac{20}{20}$+

These glasses were given her for constant wear with the addition of + 2.25 for reading. She called a short time ago

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to tell me that she had no more headaches, no pains in the back, no more confusion of intellect and could remember as well as ever she could.

Case VI. Charlie L., age 12, was brought to my office March 25th, by his sister. She told me one brother had died at an early age from some brain trouble and that this one had suffered from severe and constant headache for the last two years and that treatment so far had given no relief. The refractive power of his eyes were found very unequal. He accepted

O D +3.50s ⌒ + 2.25c axis 90°
O S + .75s

These were given him and since then he has had no heapache at all, and is able to attend school every day.

Case VII. Miss B. H., aged 21, type-writer, consulted me October 11, 1888. Has suffered continually from headache since she was a child and is unable to see sufficiently to continue her work. She was wearing eye-glasses of 1.75 D. She was found to have manifest hypermetropia in both eyes of 6 D. She was given these glasses. I received a communication dated the 4th inst., in which she says the relief the specs afforded was not only immediate but lasting and that she can work now any length of time with perfect comfort and has no ill feelings whatever.

Case VIII. Emma H., age 13, was brought to me by Dr. McCarthy, July 8, 1889. She has suffered from chorea since she was eight years old and has severe headache most of the time. When I first tried to examine her I found it impossible to arrive at anything like an accurate diagnosis, owing to the chorea movements, and not until the third visit was I able to arrive at anything like an accurate conclusion in her case. She was found to have compound hypermetropic astigmatism in both eyes and accepted in each + 1.25 s ⌒ + 2c axis vertical. Within a short time the chorea began to disappear rapidly, the spasms became less marked, the headache ceased to trouble her and now she attends school, and when I saw her, about March 20th, she was in perfect health, without the least sign of chorea or any other trouble whatever. The relapse following the operation in Case I was no doubt due to cicatritial contraction of the tendon. Tenotomies are often intended to relieve slight insufficiencies and if they are made too freely the effect is excessive, hence many surgeons do what is known

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as a partial tenotomy, dividing only the center of the tendon, leaving the marginal fibres intact. This method of operating usually promises better immediately after the operation than it finally fulfills in the end, and relapses from it are frequent, owing to the above stated cause. In fact I am convinced that relapses are almost certain to follow it, at least it has proved so with me so many times that I do not trust it now. If a tenotomy is made I divide the whole tendon and if necessary modify the effect with a suture, or I advance the opposing tendon, and this I believe can be done in every instance whether the deviation is slight or considerable, but a partial tenotomy, in my opinion, is not only useless, but, I am inclined to think, often injurious. But as this paper is only intended to deal with conditions, I will leave the discussion of methods until a future time. I would like to add here that in connecting astigmatism I use the ophthalmometer of Javol. This instrument was made for me a little over a year ago by Mr. Kagamaar, of Utrecht, and I have found it everything that could be desired. It saves time, it gives the full amount of the astigmatism at a glance and enables the practitioner to arrive at an accurate diagnosis in a few moments that would otherwise require much time and labor.

DISCUSSION.

Dr. Hobby—Mr. President: The paper just read furnishes us with a very clear description of a class of cases that every one of us needs to be familiar with, but it presents only one side of the picture. It is not every case of diseased nerve, or every case of pain in the distribution of the fifth nerve that can be relieved, or to that is due, in the first place, to any error in refraction, or inability to correctly co-ordinate the muscles of the globe. In that respect disappointment has occurred to a goodly number of people who have been led to believe that all disturbances of the fifth nerve were from this cause. The two are points in connection with the graduated tonotomy. The doctor has had experiments that are very similar to ones which I have encountered repeatedly, and that is to the effect that graduated tonotomy is disappointing in the long run—in a great majority of instances, and I formerly made this operation quite

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frequently and in the great majority of the instances I have not received the full effect desired, and at the present time I do not make graduated enotomies at all, but cut the tendons at once and finish the operation by suture instead of leaving behind the fibrous tendon which nature has planted in the sclerotics. The tendon itself is not very elastic and there is but very little yielding unless broader tendon is reached and this yielding then is due very largely to the attachment to the sheet tendon when the border has been reached and the fibrous tendon have been severed in the same tenotomy and in other cases where borders have been reached I have seen the tendon remain in its position from the beginning without giving any anæsthetic for purpose of relaxation in the tendon upon the condition of the globe.

Dr. Fuller, St. Paul:—Mr. President—I thank you for the privilege extended to me by this society. I have thought much upon this subject and consider it one of very great importance; one in which I have taken the greatest interest. There is no symptom of the nervous system that errors of the refraction of light or equilibrium of the eye muscles may not assume; that it produces organic disease resulting in polypi or in chorea, I do not believe, but that it produces symptoms simulating both of these diseases I know to be a fact. Decay is the most frequent symptom; decay varied in its power from the most insignificant to the most severe at times requiring the most powerful anodynes and even anaesthethics to give relief. This class of cases is very frequently overlooked and surgeons, general practitioners especially, are apt to think that they exaggerate their troubles, but if any of you perform an experiment with yourself; if you take a prism three or four or five degrees and wear it for a few hours with its face up, down, in or out you will produce artificially what this class of cases suffer constantly; you will produce artificial insufficiency of some of the recti muscles and you will find that you will produce symptoms so serious, so annoying, so troublesome that you will not bear it for a few hours, yet people suffering with a high

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degree, or even a low degree of insufficiency of the various recti muscles, suffer just that class of symptoms. And it is easy to comprehend that when we take into consideration the delicate nerve supply to the various muscles which are employed in turning the eye—the two sets of muscles employed in turning the eye either to the right or left and the loss of equilibrium is sustained you can understand how extremely annoying this becomes to the patient. When this is due to errors of refraction or due to insufficiency of the muscles it can always be overcome and all symptoms of the nervous system can be overcome when they are thus due primarily by correcting the error of refraction; secondarily by performing tenotomy more or less complete according to the degree of insufficiency. I shall not enter into discussion with the physicians who have already spoken upon the subject of graduated tenotomy, but I think for insufficiencies less than five degrees we should always perform complete tenotomy with extreme care if we ever do. The one case which the doctor should have treated who read this excellent paper before us in overcoming double vision after it had been established was extremely fortunate; other physicians with vaster experience have not been so fortunate. Diplopia after it has been once established for any length of time is one of the most difficult things to overcome.

Dr. W. C. Pipino:—Mr. President—I presume that I am one of the few young men who begin to think the older we grow the less we ought to perform tenotomy, and I am coming to that conclusion more and more so every day that we ought not to perform it as much as we do now; hence I do not now within the last two years perform it as much as I used to perform it prior to that time. With regard to errors in refraction no doubt to a majority of the physicians here present it might seem to require quite a stretch of the imagination to believe some things that he has said in his paper. But I feel like saying that it does not require any stretch in some of these cases that he has reported and the manner in which the patients overcame their difficulties by the errors being corrected. I have a

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few notes I read here a few years ago before the Jasper County Medical Society and also to the Polk County Medical Society. This case came to me, which was the first time a case of that kind was ever presented to me. I will give it to you for what it is worth and stretch your imagination as much as you please; the notes are as I wrote them at that time:

Astigmatism is apparently the cause of nocturnal incontinance. That astigmatism is the cause of a great many nervous manifestations no one well posted in phthalmology will deny. Heretofore correcting errors of refraction was greatly neglected by the general practitioner, but latterly, as refraction is becoming better understood by them, more attention is paid to its correction. The following case is the first one of its kind that has come under my care, consequently I offer it.

Mabel W., age 13, nervous temperament, daughter of well-to-do parents, has been troubled with nocturnal incontinance of urine for several years; has consulted various physicians for relief without any benefit. During the last year she began complaining of eye trouble, as pain in the eyes and occipital portion of the head and inability to see figures plainly on the blackboard; as for reading, that was out of the question. These symptoms becoming more marked, together with increased nervous manifestations, she was sent to me for treatment. An ophthalmoscopic examination revealed compound hypermetropic astigmatism. The patient was thoroughly atropinized to overcome ciliary spasms when the following formula was found to make vision natural:

R. E. + 0.50 sph ⌒ + 1.50 c 90°.
L. E + 0.50 sph ⌒ + 1.50 c 90°.

Patient was given these glasses to wear constantly. I ventured the opinion that the incontinance of urine might be relieved by the correction of the astigmatism. Three weeks from the time the patient went home I received a letter from the parents saying "Miss Mabel has followed the instructions you gave her and with very good results. Has not wet the bed once since her return. The glasses proved to be just what she needed and she is quite happy over the good results."

Dr. J. W. Kime.—Mr. President—It strikes me we are to cure almost too many diseases by treating the eyes. We are curing chorea, nervous deblity, insanity, incontinence

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of the urine and the list not yet complete. I think that man Stephens of New York has probably done more harm than any one who has practiced of ophthalomogy in these latter days. He operates several times if there is an insufficiency of two or three degrees; two and three times in order to correct so slight an insufficiency as this and some of the cases he reports as curing of some of these nervous troubles by these slight operations. Now I don't think that the profession is ready or even a majority of the ophthalmologists, the wonderful cures that are produced in these cases of insufficiency where they are so slight.

Dr. W. H. Kinnier—Mr. President: I don't know that I have very much to say; I said the most that I wanted to say in the paper. The gentleman who spoke of Dr. Stephens has made a sweeping assertion. I think the only thing he has footed up one side of the page. I think a very renowned gentleman said one time in speaking of eye surgery that he spoiled a hat full of eyes before he saved one. I don't know how much harm Dr. Stephens has done, but I tell you one thing he has done; he has done as much good to ophthalmology, even with his enthusiasm, as any man ever did to any branch of medicine in the United States, or, I believe, in Europe. He has been the greatest investigator that we have at the present day and we ought to honor him for it. He is the nation's own and he is not afraid to own it. I am not an advocate of Dr. Stephens. I do not follow him in his enthusiasm; I would not have anybody believe that; I don't believe in his ophthamology; I don't believe in partial tenotomies; I believe they are injurious and not indicated in slight insufficiencies of the recti muscles; I am always willing to believe that the prism would correct them; I would not think of taking a pair of scissors in my hand to correct an insufficiency if it could be done by wearing a weak prism; I don't think it is right to do it. I believe we always had better do as little as we can do and resort to as small an operation as will possibly do the work. I would rather even temporize with a case than to resort to operation in those cases

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because I know how difficult it is to do it. I know that there are a great many things we are accused of doing; ophthalmologists are accused of doing everything in regard to this matter of reflexed troubles till I think that we are justified and it is very handy sometimes to have us to send cases to. There is one thing I would just like to set right in regard to the correction of refraction errors. During the past year I have been using the ophthalmometer of Javal. It was made for me a little over a year ago by Mr. Kagamaar, and I have used it quite a while. I used to think I corrected a stigmatism perfectly; I sometimes wonder now how I did it without the ophthalmometer of Javal. I think it is one of the finest things that ever was in an oculist's office, and I believe if anybody will get one and use it they will concur with me in that opinion.

On motion the paper was referred to the committee on publication.

CASE OF TUBAL PREGNANCY TREATED BY ELECTRICITY.

By David W. Smouse, M. D., Des Moines, Iowa.

The recent discussion by Medical Societies in medical journals and the interest taken by prominent men of the profession in regard to the use of electricity in the treatment of extra-uterine pregnancy has prompted me to make a brief report of a case treated by me some four years ago.

Case:—Mrs. A., a thin, spare and delicate woman 33 years of age, sent for me on Jan. 20, 1886, and from whom I gained the following history: Married four years, never borne children, suffered severely during the first day of menstruation, which was generally very regular and free. Had gone three weeks over time for period when a dark muddy discharge resembling coffee grounds made its appearance without any pain, and in quantity was about the normal flow. This had continued two weeks at the time of my first visit; had suffered greatly from a nausea and distress in the stomach during the six weeks, and during the past two weeks had some heaviness, weight and fullness in right side. The breast had been filling up and enlarging. The nipples were sore and tender, and the

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areola around the nipple much darker than before. One hour prior to my call, when being suddenly startled while sleeping on the couch in the afternoon, she was taken with a sharp pain in the right side, which was still there, but not so severely at the time of my visit. On examination found vaginal walls very thin and lax. Uterus slightly anteflexed, almost double its normal size, freely movable, os very soft and patulous, from which flowed the discharge mentioned above. Left ovary normal. On the right side there was a lump or tumor about the size of an orange. The loose, lax, thin vaginal walls and corresponding condition of the abdominal walls made it very easy to grasp this tumor by means of bimanual palpation. The tumor was soft and fluctuating. Felt like a cyst. Could be pressed up with the fingers in the vagina until it raised the abdominal walls. It was slightly tender and could be felt distinctly with the index finger in the rectum. Tubal pregnancy was diagnosed and electricity was advised, which was commenced on the next day by using the faradic current. Placing a cup-shaped electrode covered with absorbent cotton saturated with a warm saline solution in the right vault of the vagina and a flat sponge electrode four inches in diameter over the right inguinal region, by pressing these poles slightly they could both be brought very closely in contact with the tumor, on account of the thinness of the walls. The circuit was then closed with the negative pole in the vagina, as that is much less sensitive to the negative pole than the abdominal walls. A very mild current was used to start with, as is my custom in all applications, which was gradually increased every minute until at the end of five minutes the current was sufficiently strong to produce some slight contraction of the abdominal muscles, at which strength it was maintained for eight minutes, when it was gradually withdrawn. The next day she sent me word that she would call at my office where I had better facilities for using the battery, and during this visit she said she had been more free from pain during the night previous than for a week. The battery was used in the same manner with the exception that the rectal electrode was used a portion of the time. Seance lasted 25 minutes. On the third and fourth days successively the battery was used. On the fourth day I detected a perceptible diminution of the tumor. The discharge from the uterus of the same character was more free and little or no pain was felt. The breasts had begun to shrink and soften. The battery was then used on the sixth, eighth and tenth days after the first, at which

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time the tumor was not larger than an English walnut. The uterus had diminished in size and weight, and the discharges almost entirely ceased. On the fifteenth day after the first use of the battery the tumor was about the size of an almond. At the end of two weeks more there could be felt a hard lump, the size of a hazelnut, about midway between the uterus and right ovary, which latter seemed normal at all times. Uterus normal. A month or two since, or four years after the operation, I made an examination and found no traces whatever that marked the point of the tumor. The menses have been perfectly regular and almost always attended by the first day's severe pains. This is the only case of the kind that I have ever had an opportunity to use the battery, and the results were no less satisfactory to myself than to the patient, who was fully aware of the nature and danger of the mishap.

Now I do not offer this case as affording any more points of interest, or any new features from many that have been reported, but offer it to the society more for the purpose of calling its attention to the subject, and if possible calling out some discussion on the same, that has awakened so much interest in other parts of the country. The principal points of controversy now going on are not made any clearer by this case, as I do not think there is anyone that has carefully studied the records, or had any experience with the use of electricity that will deny but that the battery at the early day at which I saw this case was the proper, safest and best means to adopt, and that even up to the sixth or seventh month of pregnancy it might be effectual. The question is what is the latest time during extra uterine pregnancy that the battery can be relied upon to destroy the life of the fetus and promote its absorption?

Dr. Petch reported a case in August, in 1886, at the British Medical Association in which pregnacy had advanced to the end of the fifth or the beginning of the sixth month, in which the fetus was destroyed by electricity and entirely absorbed. This case was treated by passing needles into the sac per vaginam, a procedure which I regard as being almost as dangerous as laparotomy. If gestation had advanced to the seventh month, abdominal section should be performed for the sake of the child, but up to this time, the seventh month, there is no good reason why electricity should not be used, and in case of its failure, then a laparotomy can be performed. One objection here might be raised that the destruction to the fetus at a late date would leave behind a shrunken mass, which would com

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plicate succeeding pregnancies, but so far as I have been able to learn from the reports of cases, later examinations showed little or no traces of the former tumor. Electricity has been used successfully in this country alone in over forty reported cases without a single death, and with suppuration in but two, and in one of these the sac was punctured, a procedure condemned by all at this time, as it has been established beyond a doubt that a mild faradic or stronger galvanic current either interrupted or with slight alterations is sufficient to destroy ectopic pregnancy up to at least the fourth month. Certainly there must be some danger in rupturing the sac in applying a current which must cause muscular contractions to tissues around it, and I do not believe a current so weak as not to cause some muscular contractions would be effectual. Yet no case thus far has been reported where such an accident has happened. There is danger of the sac rupturing at any stage after the first two weeks, and the physician or surgeon having a case under treatment or observation, must hold himself in readiness to perform laparotomy at a moment's warning. It has been less than a fortnight since a death occurred in this city, which was undoubtedly due to extra-uterine pregnancy and in which a diagnosis was made sufficiently early after rupture for an operation, but the operation was refused and death followed in twenty-four hours.

DISCUSSION.

Dr. Priestley—Mr. President: I don't think a paper like that ought to pass without any comment. Dr. Smouse has given us here a case showing what electricity can do. No doubt many of the physicians here have had a case of extra-uterine pregnancy where the fetus was destroyed, or gotten rid of by the use of electricity. If these cases can be met early and treated in that way, a great many lives can be saved. Now the doctor specified a case having been met with in this city, and there has been several cases of correct ectopic pregnancy here in this city. There has not been, as far as I know, one of those that has been diagnosed in time to be removed by surgical operation; if there has, I am not acquainted with it, but I know of several which have happened when an operation has been refused, or they have got through by rup-

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ture taking place into the broad ligament forming hæmatocle, the use of electricity acting so as to check the hemorrhage, and the fetus being gradually dissolved and the blood coagulated and the balance not absorbed becoming encysted and remaining there. Now it is very easy for a surgeon thoroughly equipped to make laparotomies and remove those cases, but here in this city, as large a city as we have, it is often very hard to reach those cases and treat them in time, and I think the doctor's paper has opened up a grand field, because at this time there is a great deal of discussion as to what electricity will do. There are gentlemen who say it will do nothing; that they can get no results at all by the use of electricity, but we are here actually confronted with a case that says we can.

CAN LACERATION OF THE PERINÆUM BE PREVENTED IN NATURAL LABOR?

By C. M. Drumeler, M. D., Panora, Iowa.

Restoration of the perinæum by the surgeon has been a fertile field for work of recent years. After attending many cases of natural labor, and encountering a few lacerations of the perinæum, I was led to question the value of the methods taught for the prevention of this accident.

Reliable statistics of ten years observation at the clinic of Halle show 4.7 per cent in multiparæ, 21.1 per cent in primiparæ. In these cases the laceration extended beyond the commissure.

Dr. Clark, in a paper read before the American Association of Obstetricians and Gynecologists last year (1889), states that in one thousand consecutive cases in his practice the per cent. of lacerations was parous 5.25, primiparous 15.9. In an earlier series of such cases, parous 5.35, primiparous 16.01, prevailing method of practice of surporting the perinæum was employed.

To prevent laceration, full expansion, or a dilatable state of the perinæum and vulva, is to be secured before the presenting part is upon the perinæum. Many years ago the writer observed that in using copious injections of warm water into the rectum to evacuate its contents in the first stage of labor,

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that the patient became more tranquil and resigned to the inevitable. The "os" dilated quickly and labor seemed to be abridged.

Since then I make it a rule to distend the rectum with water as hot as can be tolerated with comfort, when the patient is restless during the dilating stage, or when the perinæum is rigid.

If the perinæum is rigid, "hook two fingers under it" and press backwards and downwards. I believe that the levator ani muscle can, by this pressure, be partially tired out, so that it will offer but little resistance to the presenting part.

Dickinson (American Journal Obst., Sept., 1889) has found that the contractile resistance of this muscle varies from two to twenty-seven pounds, average about ten pounds.

DISCUSSION:

Dr. L. Schooler—Mr. President:—I can sometimes answer a question in a few words; but on this question, "Can laceration of the perinæum be prevented in labor?" I would say that the answer was, No. That is, that there are cases of labor in which laceration of the perinæum cannot be prevented. A large majority of the cases, of course, terminate without any laceration. And it is a singular feature that I learned in the early days of my practice that the people who seldom employ physicians seldom have laceration of the perinæum; that where the labor is long and tedious and nothing is done except to wait by the old ladies who turn themselves out as neighborhood midwives very seldom have lacerations; especially among the agricultural people of the Norwegian variety we hardly ever hear anything of that kind. So that I have been led to believe that the supporting of the perinæum either by introducing one or more fingers in the rectum with pressure upon the perinæum by the palm, or by gentle dilation by the fingers is absolutely injurious; that it causes more irritation and subjects the patient to greater danger of rupturing than if it is left entirely alone. I expect one thing, perhaps, in favor of this—there is no interference with the perinæum; nature is allowed to take its course; no ergot given; there is no effort made to stimulate

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the contraction of the uterus, while a great many practitioners —young practitioners at least—hardly feel able to attend a labor without a bottle of ergot. I used to feel so myself, but for the last ten or fifteen years I have not used it. Where it is used to bring on delayed labor, the labor terminates much more quickly than by the natural process, creating the greater liability to rupture. You attempt to support, you press or repress against the head, and you impede the progress of labor; you simply put the fibres on a stretched unnatural condition and add to the danger of these lacerations.

Dr. Hobson—Mr. President:—I can hardly agree with the gentleman who spoke before, that there are no lacerations, or even that there are very few lacerations among those women who are allowed to go on in confinement without any physician or any help. A great deal of my practice has been among foreigners, and I find a great many of those people who have no physician, or even those people come to me who do not know what their troubles are, who are afflicted with lacerated perinæum, and were afflicted for many years and did not know it. Many of them perhaps never had a physician at the time of confinement and others had had. Whether it was done by medicine or not I do not know, but I do know of cases who have said they had had a comparatively easy time at their confinement and still have lacerated perinæi.

Dr. Scroggs—Mr. President:—I endorse the sentiment expressed by the last speaker; I wish to take exceptions to the statement made in the paper, that the best method was by tiring out that levator ani muscle, and in that way to lessen the danger. It seems to me that we can, in normal cases and in many cases of abnormal labor, prevent laceration of the perinæum by helping the levator ani muscle. A steady and firm levator ani muscle is essential in normal cases of labor, it occurs to me. The head if it passes through the pelvis, when it reaches the floor of the pelvis rotates and must change its direction. We have that evolution, distention of the head, and if that evolution is perfectly performed we

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have the least possible danger of the laceration of the levator ani, or perinæum. Now, if that muscle is firm it favors by its resistence that which the author of the paper seems to rise, to antagonize or lessen, and the object of that muscle is to throw that head and produce the evolution, without which a labor cannot be succesfully terminated. A resisting perinæum is necessary for that purpose, and if we had a normal firm perinæum we would not need to support the perinæum with the hand, and if we have a relaxed perinæum then we reinforce that perinæum by placing the hand there and allowing the firm hand to take the place of that muscle. I think very often we interfere and I think we interfere unnecessarily. When we introduce two fingers into the rectum, or introduce two fingers into the vagina and drag the perinæum backward, I think we are interfering and might properly be said to be meddlesome. But it depends on the vagina being large enough to permit rotation. If that is properly performed we can prevent laceration of the perinæum to a very great degree. In many instances it is necessary to introduce forceps to bring about that evolution suddenly, and we can prevent laceration of the perinæum by the use of forceps.

Dr. Roberts, Osceola—Mr. President: I am like the lady; I don't approve of meddlesome mid-wives, yet I think the perinæum can often be prevented from lacerating by proper aid. Now, as the doctor has said, there are many cases through the country, and you will find in country practice where few of them have a physician in attendance. We have no means of knowing whether there has ever been laceration or not; unless it has been so bad as to call for surgical aid, we never hear of it, although there has been a small rent that will eventually heal up by the patient taking proper care of herself. I have seen it stated that a majority of the perinæums have a small rent somewhere. Now, in these cases, where we have laceration, you most always find the head takes a direct, straight course downward and then something has to give way. Now, my means of preventing laceration is as has been suggested, to

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support the perinæum by means of the hand, and then when you have that forced downward by means of the forceps take and gradually assist that head up from the pubic arch and throw that heavy pressure off the perinæum; this will prevent that laceration. I have used the forceps frequently when I would have had lacerated perinæum had it not been for that assistance.

Dr. Pinney; Council Bluffs—Mr. President: It seems to me the paper has not been fully comprehended. The paper, as I understand it, offers the question, Can laceration be prevented in normal labor; that means, as I understand it, Can all laceration be prevented? It occurs to me that that is the meaning and purport of the question, and if that be so, I answer not; there cannot, because the question dwelt with does not concern this space to the entrace of the perinæum, but it does involve the whole external orifice to that extent that it is only a question whether you can pass—executing the mechanical illustration—an overcoat button through a vest button hole, that expresses it. It is an absolute physical impossibility in many instances for a head to pass through without the tearing or laceration in some direction of certain fibres. If the fibres lacerate laterally or anteriorly, it may lessen the strain and tension upon the perinæum to that extent that you do not get the laceration of that body, but that there will be a laceration somewhere take place in a number of cases of labor is an absolute certainty to my knowledge. I have seen cases that I would absolutely defy any man on earth to bring into the world that head without distending the parts beyond their physical condition in consonance with the formation and structure of those parts connected or associated with so large a head. Now, there are instances unquestionably where lacerations occur and still heal up and we hear nothing of them, even occasionally in the country, but I stand in support of the remark made by Dr. Schooler; I believe he says that in the country usually you hear but a little of lacerations, and that, in fact, they do not occur. Now, my experience is that if in the country you are called to a case that some midwife had been attending, you are

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pretty apt to get laceration. Why? Because you are not called, nor neither are you desired until this midwife had become really alarmed and concerned, and the family have become concerned and they send for you because it is a necessity—because it is a bad case, and it is only those cases associated with probable laceration in spite of the best services and skill that can be exercised, and I know of no means to offer to sustain or palliate the hope that any man may have that he can get through without laceration. The physician, if he practices obsteterics very long, knows of any considerable number of cases, and if he doesn't have laceration, he is certainly luckier than any man I know. Certainly the greatest advantage comes from the use of warm water operating upon the parts, relaxing in that direction; it is a good application, but if I have a case and I want to be as certain as possible of there going to be no laceration and I find a firm resisting condition of the parts, I apply very hot cloths and plenty of them and extract of belladonna and a little opium combined around the tissues in order to benumb the parts somewhat and lessen the resistance of the nerve fibre and the muscular tissues and hope thereby to lessen the chances of laceration.

Dr. Ensign—Mr. President: (Owing to the low tone of the speaker and the confusion in the room, the stenographer was unable to catch his opening words.) In some cases the perinæum is taken by surprise, the head coming rapidly down and coming through by severe pains before the perinæum has had time to dilate. We all know of the simple illustration of a piece of rubber drawn out quickly will give way much quicker than if stretched slowly; just so with the tissues of the human body. If there is time given it will give a great deal further than if rubbed. As to the use of ergot referred to, I don't know if it makes much difference if the head is moulded when coming through the inferior straight. We all know that there are some pelves so large that they will allow the head to drop at once in the perinæum while there are others which mould it and form it so that it will pass

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through the perinæum without rupture. At least, that has been my thought and experience as I have watched the cases. In regard to the support, I believe in it. There is another thing that has not been mentioned here that I have sometimes thought saved the perinæum by changing the position, my way being to deliver from the back; in one or two instances I believe I saved the perinæum including the sphincterani in this case, by changing the patient over on knee and elbow, or a position over on the knees and thus supporting themselves. This threw the head forward and it dropped into the base of the parts. I don't know that that has saved any of them, yet it seems to me that it could. I would like to ask if any one else has tried that position in trying to save the perinæum.

CASE OF ECLAMPSIA IN THIRD MONTH OF PREGNANCY.

W. F. Graham, M. D., Atlantic, Iowa.

July 11th, Mrs. W. called upon me and after examining her I prescribed pepsin and nux vomica for her trouble, which was vomiting of pregnancy, according to my diagnosis. This agreed with her and her husband's views and they were pleased that it was "thusly." She had not menstruated for ten weeks, had always heretofore been regular, except during a previous pregnancy, when she was delivered of a dead fetus at full term. She was 26 years of age, good habits, farmer's wife, had never been sick, but was of slender build and of nervous temperament. She had been vomiting three or four weeks for which she had taken several remedies, including the oxalate of cerium. I prescribed several different things for her in a short time thereafter with the usual results, namely, very little benefit, though at times she felt quite well. July 23d I was called out to see her. She was then not vomiting much, but had a temperature of $102\frac{2}{5}°$ F., tongue coated with a whitish fur, mouth dry, liver slightly enlarged, and a discoloration of the skin which I took to be a slight jaundice. I prescribed for her then calomel $\frac{1}{10}$, pulverized ipicac $\frac{1}{10}$, soda bicarbonate $\frac{3}{10}$, sugar of milk grs. ij. several powders to be taken frequently, also quinine, and tincture iodine externally over region of the liver;

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lemonade at liberty. The next day she was reported to be better, also on the day following, July 26th. The night of the 27th I was summoned in great haste to see her. When I reached her she had had five or six violent convulsions from a half hour to an hour apart, and getting closer. She had a fit in two or three minutes after my arrival, and before I could get a history of what had taken place and contrary to my and the attendant's expectations she had another. This second fit was inside of six or eight minutes after the previous one. Not having attended a case of puerperal eclampsia for nine years and never having see so violent a fit in a female, I must confess that I now begun to look upon the situation with more degree of apprehension. The fits were violent and complete coma followed; she had a weak pulse of 170 per minute. She had been feeling better during the day and the fit came on unexpectedly and without warning. It is not necessary to describe the convulsions as there was little or nothing unusual in them. There was opisthotonos, cyanosis, clenched thumbs. Hurried respirations just before the fit, followed by a temporary suspension just after. I believe this suspension just after the fit is somewhat unusual. Of course the attendant and husband were alarmed and expected me to do something immediately. I thought bleeding was contra-indicated. She could not swallow; I poured some chloroform upon a napkin and allowed her to inhale it, but this was not done satisfactorily. Instructing an attendant how to hold the napkin, I prepared and gave her hypodermically $\frac{1}{8}$ grain of morphia sulphate, with $\frac{1}{50}$ grain attropia sulphate, and awaited the results, withdrawing the chloroform. There were no more convulsions, but consciousness was not restored. I sent for consultation, which failed to arrive. In a few hours she could swallow and I gave her digitalis every two hours; left solution of bromide of potassium to be given if any symptoms of convulsions should appear, but this was not given her. I had her by this time sweating pretty profusely and extremities warmed, for they had been cold and clammy. I had now been with her from 2 A. M. to 8 A. M. I called again about noon with Drs. McClees and Porterfield. She had lain all this time in a comatose condition and could not be aroused. Could swallow but little; pulse 170, respiration about 20 per minute, looked perfectly quiet. Examination per vaginam revealed nothing; uterus about the size of my fist, urine sp. gr. 1015, albuminous. There was no œdema, but had been considerable reduction of flesh since she became

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pregnant. After consultation she was given broken doses of calomel, one grain every hour, and digitalis rather freely; a fly blister an inch wide was placed upon the vertebral column from occiput down one-third of the length, and potassium bromide was also given her. She took the medicine and some liquid nourishment, and water and lemonade. There was yet no return of consciousness and she lay perfectly quiet for ten hours, when she begun to breathe shorter and more shallow and died in two hours without everm oving. Death took place thirty-four hours after first convulsion and thirty hours after I saw her. No post mortem was permitted.

I was more than usually interested in this case and attempted to read up on the subject, but to my surprise found little or nothing in the literature upon eclampsia in the early stages of pregnancy. Volumes on puerperal eclampsia, but nothing to fit my case, and I could not get the medical gentlemen with whom I met to venture an opinion or offer any theory as to the cause of the death. For this reason I concluded to report the case to this Society and make a few remarks that are the results of my own study and thought rather than any help I have from other sources and may consequently be very erroneous:

What was the condition present or what was the pathology in this case is the main point of interest? In other words, *What was the matter?* We must exclude first cerebral disease, *per se.* Second, epilepsy; third, hysterics, fourth, alcoholism, fifth, results of taking poison and sixth, even exclude my hypodermic injection of morphia, as the pupils were never contracted.

Of course there are two important things that I do not know. First: Whether the retina presented indications such as take place in albuminuria. Second, how long the albuminaria had existed. Perhaps it had existed for months and a slow uræmic poison had been taking place for some time, until suddenly an anæmic condition of the brain or intra-cranial blood pressure or whatever condition it is that produces apoplexy in albuminuria occurred. I think then this was the condition and what took place in this case, that this was a case of puerperal eclampsia in the third month of pregnancy, that there had existed previously a granular kidney and that the exciting cause was the gravid uterus upon an excitable nervous system. I am satisfied that this view explains the symptoms and the termination of the case more satisfactory than any other would do.

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DISCUSSION:

Dr. Jenkins—Mr. President:—In regard to the pathology of the case I think on that like most of those cases, owing to the kidneys. If the urine had been examined sometime before the attack of eclampsia they would have found albumin. In regard to the convulsions occurring during the first of pregnancy as well as at the close, the last month, or during labor, of course he says he has found nothing in the books about it occurring except near the full term. I presume most of the physicians have seen cases that have occurred as early as the third, fourth or fifth month. I can remember at least two that occurred between the third and fourth month; very severe convulsions terminating differently from this case. In fact, one of them was terminated by miscarriage and the other terminated by proper treatment in being relieved and the patient went to a full term. I think the proper treatment of a case of that kind, even though there is a condition of partial anæmia, if you are called early enough, is to let a little blood. If you do that you lessen the pressure on the brain and kidneys. You in that way prevent this change that came about in the blood vessel to produce a uræmic poisoning, and that is what you bleed for. You bleed first to prevent a return of the convulsions, and secondly to lesson the pressure on the blood vessels. If you do that you are almost sure, at least, not to have that fatal termination. If you bleed early enough there is not much danger. My treatment in that case would have been to bleed pretty freely, the extent of bleeding, of course, depending all together on the patient. Then I think the proper treatment was chloral if she could get it down. Probably a little something to get up a free action of the bowels. I am certain that chloral has a great deal to do with controlling the convulsions. I have had a good deal of experience with it in the last two or three years, and I hardly ever treat a case now without using it, and it has a very good effect. I would give the chloral, not simply to prevent convulsions, but to prevent the tendency to

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convulsions; and I would also give it for its direct effect on the kidneys. I can't tell you just how it acts, but I know from several cases that I have cured that it does relieve albuminuria; it has also relieved that condition of acute parenchymatous nephritis; and it would lessen the convulsion. It probably would not relieve all cases, but in my mind that is the proper line of treatment in cases of that character. I make these remarks more particularly to state my views in regard to the effect of chloral in Bright's disease of the kidneys, in eclampsia, and also in other cases. I have seen a good many cases—probably ten or fifteen —of puerperal convulsions in my time, and I don't think I ever lost but one case that I bled, and I bled nearly all of them, and to-day if I was called to treat a genuine case of puerperal convulsions I would not do so without first letting a little blood and then treating the case upon the principle that I have mentioned, either by chloroform or by chloral.

Now, about hypodermatic treatment, or treating diseases by chloroform hypodermically; it is probably good, but I very much prefer chloral to the hypodermic injection of morphia. I start probably with thirty grains of chloral for the first dose, then reduce it to fifteen grains according to circumstances, and then to ten, and then after the patient is a little better I generally give about twenty grains of chloral three times a day with other treatment, and I have followed it up for months, and I have never seen any bad effect. As I said before, about the only case of Bright's disease that I cured, I cured with the chloral with other remedies, hot baths, etc.

Dr. John Riley—Mr. President: I think it is probable that as Dr. Jenkins has observed that this was a case of albuminaria, but the convulsions coming so early in the history of the case, which is rather out of the ordinary course of events, that is uncertain, but as far as bleeding is concerned, I want to say just a word on that subject. I never saw but two cases of puerperal convulsions, and both of these cases followed severe hemorrhage. One of them was a case presenta previa and it was severe—an exhaustion; and I found it necessary to use tampon-

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nement until dilatation was sufficiently along, then I removed the tampon, introduced my hand and turned the child and removed it. After bringing the feet down, the pains came on of themselves, and probably in the course of ten minutes from the time I took away the tampon and removed my hand the child was born and the uterus contracted. I had given her before I took away the tampon a dose of about two drachms of fluid extract of ergot, but she was ten miles in the country, the hemorrhage had been so severe that there was blood on the floor; it had gone down through a straw tick and through all the quilts they had put upon the bed and her pulse was probably 120 or 130 at the time I was there, and as soon as it was over—I would say that I didn't give her chloroform or any anæsthetic—I took the child without giving her any anæsthetic at all; she didn't suffer very much really and when it was through she remarked it was a very much simpler operation than she supposed. I says "Yes; we are well over it now, and you will soon be all right." The uterus contracted well; there was no hemorrhage. It was after the child came down and I spoke to her in that way, congratulating her and says "you will soon be all right" and I was sitting there talking just to call her attention to something and they were giving her a little bit of stimulants when all at once she went into a convulsion. Well, I never saw but two, but that was the strongest puerperal convulsion I ever saw. She was strongly convulsed, and before I had time to use any remedies—before she could get so she could swallow at all, I immediately dissolved a dose of chloral hydrate for her and used it in the other case and saved it—and I fixed the chloral hydrate to give her before her teeth ever became loosened, or her throat got into such a condition that she could swallow; her pulse was gone and when I gave her the dose of chloral hydrate in it she was gasping. Well, she didn't live more than two minutes from the time the convulsion came on; she was very strongly convulsed and I think that in that case, of course, bleeding would not have been indicated because she had been very thoroughly bled. Now, another case, which was the

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first case I ever attended in my life, and it was a case of twin birth; there was probably half an hour between the birth of the two children; every thing progressed favorably, but she had albuminuria. I knew it at the time. She was then under the influence of chloral hydrate. I had given her two fifteen grain doses from the time I had been there with her. I remained awhile to see how she would get along, for she had albuminuria very bad. Her limbs were swollen and were puffy. In about a half hour from the time the last child was born she went into a convulsion and it was quite hardly on. That convulsion only lasted a minute. I gave her another dose of chloral hydrate, one strong enough to put her to sleep. She went to sleep and slept two or three hours, and when she awoke she had no more convulsions. She had some convulsions between the birth of the two children; there was some little time between the two and she lost quite a good deal of blood. So convulsions can come on where there has been loss of blood. I don't think that bleeding is always indicated, but I do believe that chloral hydrate is as near the proper remedy as we can use in the most of those cases.

FIBROIDS OF THE UTERUS.

By Dr. D. W. Crouse, Waterloo.

In the absence of anything strikingly new to the profession, either in disease or treatment, we are left to call attention to that already known and perhaps every phase of it discussed, among individual physicians, societies and medical journals. I am consoled in offering a few thoughts upon the subject of Fibroids of the Uterus, by the fact that it is a practical subject to every physician in active practice; one of interest to the public; and of great moment to the individual afflicted.

Within a few years this subject has been receiving additional attention, especially so far as treatment is concerned, by both physicians and surgeons, and some additions to our knowledge, valuable to us in our every day duties, have been made. It is not my purpose to enter into the etiology of these tumors, nor their pathology, for the important reason that my oppor-

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tunities and preliminary training have not been sufficient for me to discuss the facts already known, so as to give this body of medical men a new interest who are familiar with the thoughts of the able authors who have treated upon these subjects, nor am I able for the same reason to add new facts or discoveries upon the mooted questions connected therewith. Suffice for my present purpose to say that fibroid tumor has its growth within the muscular tissue of the uterus. They are denominated myoma, fibro-myoma, fibroma, and fibro-cystoma. These are divided with respect to their relation to the uterus, into sub-serus which presents itself toward the external portion of the uterus pushing the peritoneal covering before it. The sub-mucus growing inward into the cavity of the uterus and pushing the mucus membrane before, lying almost underneath it, and third, the interstitial fibroid which is developed within the wall and constitutes a portion of the wall of the uterus itself. Transition of one of these three varieties of fibroid into one of the others may and does occur, and I am led to believe that the line of demarcation many times is easier drawn in books than upon patients. These growths rarely appear before the age of twenty years; the age of greatest liability to fibrous growths for all women, from the statistics accumulated is shown to be from 30 to 40 years of age. They may occur later in life, but rarely after 60 years of age.

Uterine fibroids do not necessarily impair health seriously, or cause death. They some times spontaneously disappear; are often arrested in their growth; recession sometimes takes place, and in some instances appear to respond to medical treatment, and rarely are spontaneously enucleated. These are comforting thoughts to be presented to a patient when we are obliged to report as the result of an examination that we find that the symptoms that she complains of are the result of a tumor, fibroid in character. To have a prognosis verified, however, extreme caution must be exercised. The character of the tumor, the history up to date, and the variety to which it belongs are very important factors to enter into our calculations. The diagnosis of fibroids of the uterus has to the average physician its perplexing problems like all the other growths within the abdominal cavity, and very often the specialist even knows better after abdominal section, or at post-mortem just what was abnormal beneath the abdominal wall, than by any of the non-operative means at hand. If this be true, it follows that the physical signs are not uniform in cases of fibroids,

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that they differ in the group referred to above, and either variety may be masked by some abnormal condition associated with it, or may vary from its location, size, or character. From my own experience at the bedside as well as from that wider field. the experience of others which finds space in medical literature, others whose labors are cosmopolitan, the difficulties of diagnosis, in some cases, are made manifest. If it be true that those whose training and experience entitle them to speak with authority, scarcely avoid mistakes, how are the average of us expected to appear?

A fibroid of the uterus may be mistaken for flexions, cellulitis, hæmatocele. Pregnancy normal or extra-uterine, aneurism or ovarian tumor and perhaps otherabnormal growths in that region, or conditions connected with intestine and other abdominal viscera and with all the rules laid down by the authorities, the average general practitioner is sometimes unable to interpret for the sufferer her true condition and she is handed over to the metropolitan professor who finds out, it may be after hysterectomy, that it was that most common of tumors, the fibroid. With these impressions forced upon us, the importance of being able to differentiate these diseases which resemble the one under consideration, and at the same time to give the most appropriate advice or treatment, cannot be over-estimated.

These growths occur in women with sufficient frequency that the average practitioner meets with a number of cases during the years of his practice. The patient is sometimes unconscious of their presence for quite an interval of time. for they may give so little distress that their presence is not suspected either by physician or patient. Usually, however, the patient seeks relief from a train of symptoms due to pressure or displacement producing disturbance of bladder or rectum, a general dragging feeling, or a sensation of fullness about the pelvis with a very frequent symptom of disturbance of menstruation; hemorrhage of a dangerous character is sometimes the most important symptom.

A patient with such a train of symptoms applies to her medical attendant and examination reveals a solid growth, connected with the uterus, and he will generally be able to satisfy himself of its true character by making use of the differential means given by the authors if it be a fibroid. And now comes the most important part to deal with. especially to the patient. viz: the advice and treatment.

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In all cases it will be conceded that our efforts at treatment of these fibrous growths should be for their removal if it can be safely done, or if possible to arrest their development. The means to be employed in the individual case will depend upon two conditions, the minimum risk to patient and the facilities surrounding the case. The majority of the physicians and surgeons who belong to this society have no hospital with trained nurses at their command, no chief surgeon at hand, but are men who do general practice in medicine and surgery, who are expected to treat on call every variety of sickness or injury, every inflammation or fever, fractures of bone or flesh, and be ambidextrous in the operations of midwifery and surgery, handy-all-around men, and up to the best standard of the profession. It is greatly to his credit that he in full measure gives his best efforts to worthily fill what is required of him and is rarely caught napping. It still must be quite apparent that in connection with this subject he can much more readily do what is to be done by dietetics and medical means and the minor surgical procedures than to meet the difficulties of graver surgical methods which have been adopted. To regulate carefully a diet composed chiefly of animal food, and administer such medicines as have some support among the authorities as useful, are easily within the reach of all. Formerly when a tumor of the uterus was discovered, the prognosis was very grave. But with all the clinical history of these growths better understood and separated from other tumors with a bad record, we know that relatively few of them prove fatal. But they generally materially affect health and comfort and are accompanied with other symptoms that call for relief to prevent danger or that might lead to disastrous result. The surgical operations which have been done for the removal of fibroids in the way of removal of uterine appendages enucleation, hysterectomy are among the most formidable surgical procedures, especially the two latter, and among surgeons it is a mooted question how far the operator is justified in submitting the patient to the risk of removal of the uterus to remove the fibroid. But it is not my purpose to go any further in that direction than this passing notice. So far as the treatment of fibroids by electrolysis is concerned it has quite a class of witnesses to its virtues, and while disappointing to many and perhaps with a majority of cases it has been negative in results, yet there is enough of positive evidence as gleaned by the late discussion in the New York Academy of Medicine and

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published elsewhere, to continue the trial with well-grounded assurance that many of the victims of fibroids will be relieved of many of their distressing symptoms, the growths checked or reduced in size and a small per cent will be entirely cured, and all this with a very small per cent of mortality, due to treatment. This subject was forcibly and elaborately presented to this Society in 1887 by Dr. Margaret A. Cleves, and published in our transactions lately placed in the hands of all and bears repeated perusal with profit.

Quite early in my practice I was called to see a Mrs. B., aged 46 years, who had been quite irregular in her menstration for a year or two and at times quite excessive in her flowing, but notably for the past three months. She had called during this period at intervals a surgeon, and for the purpose of stopping or controlling the hemorrhage he had kept her upon ergot during this time and had examined her with sound for cause of same, with unsatisfactory results. Being taken with an unusual spell of hemorrhage in an emergency I was called in and found the patient with some body projecting through the os, and about to be expelled, which was entirely detached and easily removed, quite firm, fibrous in character, without pedicle so far as noticable. I was at a loss to account for this at the time. I now believe it to have been a fibroid that the uterus either with the aid of ergot or without, enucleated from its tissue. Some years later I had charge of a patient, Mrs. W., aged 48 years, living some distance from my office, who for more than a year lost an unusual amount of blood and it came on without any regular interval. After about this length of time the uterus was dilated and a fibroid of small size was discovered. This patient passed from observation for more than a year and was cared for by a local physician and when next seen had still copious floodings and at other times a very free local discharge. Examination revealed a fibroid polypus with sessile base, which I removed by traction and ligating as close to uterus as possible, and cutting the pedicle. Did this change come about by the use of the ergot, or was it the natural process of the uterus that rendered the tumor a polypus?

Within a year a Mrs. H., aged about 50 years, had frequent and free flowing spells, was treated with ergot for a few months and grew worse, in fact was rendered so helpless as to be obliged to keep her bed. Examination revealed a polypus,

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situated quite near the neck of uterus which was twisted off, and at this date she had regained her flesh and strength, and is a well woman.

Case IV. Mrs. C. F., aged 33 years, puberty at 13 years, married at 26 years; menstration regular, somewhat profuse, no severe pain; leucorrhoea varying in character, not constant. Tumor discovered six years ago size of an orange and increased in four months to size of an infant's head, with protuberance in neck of vagina about size of hen's egg, though not that shape. Commenced now the use of fluid extract ergot ten minums by mouth, four times per day, after a few weeks increased to fifteen minums; had used irregularly for 8 months. The tumor grew two-thirds less after the end of first year, and has decreased quite gradually since and at this date does not inconvenience her in the least; the remnant still remains.

Case V. Mrs. C., had a small fibroid tumor; could be detected by finger in vagina and hand on abdomen; constitutional disturbance considerable; was treated with ergot four months by mouth and by injecting into the tumor, with marked improvement by the end of this period. Soon after became pregnant and at the end of pregnancy and confinement all signs of tumor were removed.

Case VI. In a lady that I saw in consultation in an adjoining county, who had become pregnant, and either before or with her pregnant condition a fibroid developed and at the end of four months her attending physician found her in great pain and having a miscarriage. He found then, and I was able to confirm it the next day, that she had a fibroid. She was put upon ergot for three months when all trace of it had disappeared as reported by several physicians who examined her.

Others that I have seen and had under treatment have shown some abatement in size of tumor and improvement correspondingly in condition of patient. Now lest the surgeons shall become alarmed I will briefly give the other view from some notes that I have kept. There are four patients with large fibroids that have been under my care and the care of others, all of whom have had the ergot treatment pushed for years at intervals, and the iodides and chlorides between, and diet regulated, and having good surroundings, and the tumors grew to an unusual size and two of them have had electrolysis used without any perceptible improvement. One of the others has had severe floodings that nothing but tamponing seemed to control and though the interval is now months between, the end

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is not yet. Two of them have visited leading surgeons for operation, but they have been advised to bear the ills they have rather than fly to those they know not of. From what trial I have been able to make of medical treatment, as well as the record of the efforts of others, I am convinced that ergot takes first rank.

Dr. Daniel T. Nelson collected the records of one hundred and fifty-three cases, from one hundred different physicians in the different parts of the country, in a paper read before the International Medical Congress, and out of the number there were only a few less than a dozen that had not shown some improvement, and he states in his summary that surely the ergot treatment is a safe and reliable mode of treatment. I suspect, however, this record did not contain all the cases treated by the use of ergot by these one hundred physicians, or it would have shown a much larger number of fruitless efforts to better the conditions of patients. Still the records, so far as they prove anything, prove that a large percentage of cases are benefited, many cases permanently cured, and that the percentage of deaths is very small, and that it has many advantages over all other methods in the treatment of fibroids.

DISCUSSION:

Dr. Skinner—Mr. President: I have nothing to add except simply to endorse the paper in every particular and add the weight of my testimony in favor of the electrolytic and ergot treatment combined, which, in fact, is nothing new, as Dr. Byford presented a paper to the Louisville meeting of the medical association containing practically the same points. I think he used the faradic current of that time, but since then the use of the galvanic current has been more generally adopted. And the only thing in which I would differ with the doctor is that the percentage of cures, or percentage of those relieved so that they amount to a radical cure, is much lower than he would indicate. I think every member of this society with a moderately expensive galvanic apparatus, such as can be procured in any of the larger cities, can obtain a current of sufficient strength, that can be used without anæsthesia, and with ordinarily constructed electrodes so that at least 70 per cent. of

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all fibroids can be controlled; while they may not be cured they will be relieved so that the patient can pursue her avocations. In my experience—and it has been quite extensive—the currents can be used sufficiently strong every other day for a period of five or six weeks alternating with a period of rest of about two weeks, and then again five or six weeks of treatment together with ergotine hypodermically, and in this way at least 70 per cent. of the fibroid tumors that will present themselves will be relieved. I wish to congratulate the doctor on the paper as presented.

Dr. Schooler—Mr. President: I have listened with very much interest to the reading of the paper by the doctor, and I don't wish to criticise, but to simply emphasize a few of the facts. For a considerable length of time the profession have been looking for different treatment for fibroids than that of the removal by a knife, or laparotomy. The sub-mucous fibroids are usually removed quickest and best by an operation. Now there are cases in which hemorrhage has been increased. I had a case the other day in which the pain and all the symptons of labor came on at each menstrual period, and it was found the lady had had what was supposed to have been a miscarriage and I was called and diagnosticated a sub-mucous fibroid. I attempted to remove it, but the wire would make no impression, simply lacerating the mucous membrane and grasping the volsella forceps enucleated it, of course, after dilating the cervix. The operation for the removal by the knife has not been a brilliant one. It is something like the removal of cancers. Surgeons need something, are looking for something that will give better results. I presume from the testimony of persons whom we are bound to believe that electrolysis at the present time is a more popular treatment, but like all other methods that become popular it must be administered to some judgment. It is not entirely free from danger and it is not an absolute panacea for fibroid tumors. Almost always when the first new method of treatment is broached and is made public nearly everybody springs into print, or into the medical so-

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ciety for the purpose of reporting successful cases and very frequently these methods are finally abandoned, other practitioners, other surgeons, or other physicians failing to get these brilliant results when they apply them exactly the same way. Now if you read Dr. Newman on urethral stricture you think every case in the world would be cured by electrolysis, yet you take other men who apply electrolysis in the same way and in the same class of cases and they fail entirely to get results. Already there are cases coming to light with men of good experience, good ability, proper appliances and who apply their electricity in just a intelligent as manner as Apostoli, or any other, and yet they fail to get these results. The 95 per cent. or 70 per cent., or even 50 per cent. of cases cured are not borne out by the results in their practice. I believe that electrolysis is an excellent auxilliary in the treatment of these cases. I believe that it will cure a certain portion of them; but I do not believe it will cure anything like all the cases. My position is where extra-uterine fibroids are found that it is proper to refer them to some one competent to treat them by electrolysis, and then if that fails and life becomes unendurable that a certain portion of the cases at least will have to be treated by the old method of laparotomy, for the removal of the fibroids and sometimes uterus and fibroids together. The most of the cases related in the paper are cases of sub-mucous, or inter-mural, tumors and growths. Under the old nomenclature we heard of cellulitis, etc.; now that has dropped and we have salpingitis, pyosalpinx, etc. What used to be diagnosed as pelvic cellulitis is now diagnosed as fibroids and adipose tumors are sometimes diagnosed as fibroids, and while the patient is being amused by electrolysis or electricity the tumors get well. The spontaneous cure of fibroids is well known. Of the ordinary fibroid tumors, some cures are effected spontaneously, some by electrolysis, some by laparotomy, some by ergot. Every one has its place, and the intelligent surgeon who loses sight of any of these methods in the treatment of fibroids will not be as able to do good work as the one who always keeps them in view.

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MATERIA MEDICA.

MEDICINE AND HYGIENE.

Diseases of the Mind and Nervous System

HOW SHALL WE REDUCE HIGH TEMPERATURES?

By S. W. Moorhead, M. D., Keokuk.

One of the important questions most frequently presenting itself to the physician in active practice is how to deal with the febrile process. A rise in temperature above the normal characterizes most of the cases he is called upon to treat, and in not a few the fever is of sufficient intensity to require measures for its reduction. Were the pathology of all diseases the same, or if all antipyretics were alike in action, it would be a matter of indifference what febrifuge were chosen in a given case. But as the pathology is widely different in different diseases, and as the various antipyretics effect their results in ways equally diverse, it follows not only that there is latitude for choice, but also that the remedy should be adapted to the form and character of the disease and the condition of the patient. To point out in a general way some of the indications which it is believed should govern in making such a therapeutical diagnosis, is the object of this paper.

It would be interesting to discuss in this connection the essential nature of fever, but our limitations forbid. The subject is one which has perplexed medical philosophers from Hippocrates to the present time, and until it is definitely and conclusively settled there must continue to be more or less confusion of terms. One point must be insisted on in the interest of clearness in view of what follows, namely: That increased heat and fever are not convertible terms. Elevation of temperature, it is true, is an essential pathological condition common to

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all fevers, but it is only one of many functional disturbances which are believed to be due to a common cause. In addition to rise of temperature, fever is characterized by alteration of the processes of innervation, circulation, secretion, nutrition and tissue disintegration. Increased heat, in other words, is only a symptom or effect of the condition known as fever, which condition is manifested no less by coincident disturbance of the functions just named. If this view be correct, remedies which simply reduce temperature are not necessarily anti-febrile remedies; and the term "antipyretic" as commonly used and understood, is a misleading one. Were fever and elevation of temperature identical, reduction of temperature would mean cessation of the febrile process. But anti-thermics are not *per se* curative agents of fever, and an "antipyretic," so called, is or is not an anti-febrile remedy according to whether it acts in opposition to fever or only in opposition to increased temperature. Attention is called to this distinction at the outset because of the conviction that in the treatment of fever attention should not be confined to the temperature alone; and that in making an estimate of the comparative value of the different so-called "antipyretics," regard should be had to their several effects upon the nervous, circulatory, nutritive and secretory systems, as well as upon the body heat. It is insisted, therefore, that the heat reducing agent employed in a given instance shall, if possible, be one which will neutralize or counteract the cause of the fever; or, if that be out of the question, one which will most favorably modify all the disturbances of function resulting therefrom, that whenever possible the anti-thermic shall be also a febrifuge.

It is obvious that an increase in temperature must depend upon an increase in heat production, or lessened heat loss, or both combined. Antipyretics, accordingly, may be divided into two general classes: (1). Those which lessen the production of heat; and (2) those which promote the loss of heat. Some, as we shall see, act in both ways.

A lessened production of heat may be affected by interfering with tissue change (a) by altering the composition of the blood, and (b) by reducing the circulation. Examples of agents lessening tissue change by reason of their effect on the blood are quinine and other alkaloids of Peruvian bark, antipyrin, acetanilid, phenacetine, salicin, salicylic acid and the salicylates, salol, carbolic, benzoic and picric acids, thallin, chinoline, hydroquinone, pyrochatechin, kairin, kairoline, resorcin, pheno-

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resorcin, berberin, alcohol, camphor, eucalyptol, thymol and other essential oils. Many of these in full doses have also a depressant effect upon the heart and respiration. Quinine in antipyretic doses interferes with the oxidation process in every part of the body. As an energetic protoplasmic poison it diminishes the absolute number of white blood corpuscles by interfering with their formation. By lessening the affinity of these corpuscles for the oxygen of the hæmoglobin, it retards their amœboid movements and hinders their migration from the capillaries. Its action on the red corpuscles is to prevent them from taking up oxygen, or ozone; to bind that which they already contain more closely to the hæmoglobin, and to prevent them from giving it up to the tissues! Thus deprived of oxygen, oxidation in the tissues is necessarily imperfect, and the production of heat is lessened to a corresponding degree.

The action of antipyrin, acetanilid, salol, phenacetine, and the other members of the aromatic series of carbon compounds is similar to that of quinine, but not identical. They interfere with oxidation by producing important changes in the blood different from those of the cinchona alkaloid. As a result of their administration the red blood corpuscles are altered in form, and the hæmatin is separated from the other constituents. Owing to the lessening in quantity thus produced of the oxyhæmaglobin, and the corresponding formation of methæmaglobin, the "ozonizing" function of the blood is seriously impaired, and nitrogenous metamorphosis, with evolution of heat, diminished. The cyanosis and collapse sometimes witnessed are a result of the partial and temporary disintegration of the red globules produced by these agents. If the amount of the drug used be large, disorganization of the whole mass of the blood ensues, and that fluid assumes a chocolate tint.

Chief among the agents which act through the medium of the circulation are venesection, aconite, veratrum, antimonials, colchicum, trimethlamine, chloral, large doses of quinine, and digitalis. With the exception of the last named, these have a depressant action on the intra-cardiac motor ganglia and the vasomotor and respiratory centers in the medulla. The force of the heart is consequently weakened, the arterioles are dilated, the blood pressure lowered, and the respiratory movements lessened in depth and frequency. As a result aeration of the blood is impeded, and less heat is generated. Aconite, veratrum and trimethlamine also contribute to this end by slowing the heart through their action on the inhibitory apparatus;

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while antimony in addition to its effect on the circulation of the blood, combines with the red blood corpuscles, lessening their oxidizing power. Digitalis strengthens as well as slows the heart, and stimulates the vaso-motors with consequent rise of blood pressure. The most plausible explanation of its antipyretic action is that it lessens tissue change by contracting the dilated terminal vessels. In fever there is partial vaso-motor paralysis, with dilated arterioles and a low blood pressure. It is the observation of Akerman confirmed by Heidenhain, that as the blood pressure falls the temperature rises; and that as the blood pressure rises the temperature falls; that there is in fact an antagonism between the temperature and the blood pressure. If this be true, the modus operandi of digitalis is explained.

Loss of heat may be promoted in several ways. Dilatation of the cutaneous vessels by means of alcohol or the nitrites increases the bulk of blood in the external cooling area, and thus, produces increased radiation of heat. Some valuable experiments recently performed show that so great is the radiating power of the skin that in health as much as sixty per cent of the heat leaving the body does so by radiation.

Diaphoretics are another powerful means to the same end. To this class belong some of the remedies which lessen tissue change, notably antipirin, acetanilid, thallin, kairin, kairoline, phenacetine, and salicylate of sodium. Others have been enumerated above in the list of agents acting on the circulation, as aconite, veratrum, and antimony. The diaphoretic group also includes the nitrites, Dovers' powders, ammonium and potassium salts, jaborandi, warm drinks, the wet pack, vapor and Turkish baths. In addition to dilating the cutaneous vessels, allowing free radiation from the surface, diaphoretics cause a loss of heat due to the evaporation of the sweat. By the conversion of the water into aqueous vapor a large amount of sensible heat is rendered latent, and the temperature of the body correspondingly reduced. When it is remembered that five and one-half times as much heat is required to convert boiling water into steam as is required to raise water from the freezing to the boiling point, the amount of heat abstracted from the body by the evaporation of the perspiration will be readily conceded to be very great. Inasmuch as during the active stage of fevers the cutaneous surface, as well as the mucous membrane lining the whole extent of the respitatory tract, is drier than natural, it is highly probable that the

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elevated temperature in many cases is due quite as much to lessened exhalation of aqueous vapor and consequent retention and accumulation of heat in the body, as to increased activity of molecular changes in the tissues. Diaphoretics restore the lost balance between heat production and heat loss, and are therefore a rational as well as a powerful means of reducing high temperature.

Diuretics, as well as diaphoretics, are true physiological antipyretics. The kidneys are the chief organs by which the system excretes the products of tissue change. In fever the tendency is for them to become inactive, while at the same time the work required of them is increased. By the administration of diuretics their excretory activity is heightened, waste material resulting from the disintegration of nitrogenous tissue is eliminated, and the system rid of one of the chief elements in maintaining the febrile condition.

Still another method of increasing the loss of heat is its direct abstraction from the body by means of wet packing, cold sponging, and tepid or cold baths. Ice and cold fluids taken into the body destroy or neutralize a certain amount of heat, and in doing so aid to reduce the body temperature. The application of cold in the treatment of febrile conditions dates back to antiquity, and is an effective, speedy, and sensible plan of getting rid of superfluous heat. With proper precautions it is also one of the safest methods of combating fever. One great advantage which it possesses over the chemical antipyretics is that it is an antifebrile remedy, while they are simply anti-thermic. The reduction of temperature is but one of the results of hydriatic treatment of fever. Its effects upon circulation, innervation, nutrition, tissue metamorphosis and the other physiological functions which are disturbed by fever, are not less important than the lowering of the temperature. It is undeniably tonic to the nervous system, including the brain, and counteracts the muttering derlirum, carphologia and other evidences of nervous depression. It does not impair the oxygen carrying power of the blood, nor is the composition of that fluid altered in any way except as the result of improved digestion and assimilation of food, and an increased secretion of urine. It temporarily restores circulation and respiration approximately to the normal. As a result of the hydriatic treatment the cardiac action becomes stronger, slower and more regular; the tension of the blood-vessels is increased through stimulation of the vaso-motors; respiration is deepened and

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slowed; all the secretions are increased; appetite and digestion are improved; the whole system is refreshed and invigorated, and the patient fortified against the danger of inanition and adynamia. It follows from this that a high temperature is not the principal, and by no means the only indication for hydrotherapeusis in fever. All the physiological disturbances are favorably modified by it; the tendency to complications is lessened, and the changes of recovery promoted.

From the foregoing review of the manner in which the several classes of antipyretics produce their effects, some conclusions are possible as to the indications and contra-indications for each. In the continued fevers which tend directly to debility or functional impairment, as the typhoid group, the chemical antipyretics should not be used except possibly as a last resort. There are several reasons for this belief. Good authorities now hold that the elevation of temperature when within the usual bounds of typhoid fever, not only does not endanger life, but may be a wholesome reaction against a materies morbi; that febrile heat is a sanative power by which the body consumes and destroys a virus or germ it could not directly eliminate. However this may be, it is indisputable that the deaths from typhoid do not correspond absolutely to the height of the fever. Prof. Welch, of Johns Hopkins' University, in his Cartwright Lectures on the pathology of fever has quite clearly shown from both experimental and clinical data, that high temperature is not the chief determining cause of fatality in typhoid; that failure of the heart's power is less an effect of high temperature than of other concomitant conditions; that infection and ptomaine intoxication resulting from it are chiefly concerned in the production of fatty degeneration of the heart; that the disturbances of the sensorium which constitute so prominent a part of the group of so-called typhoid symptoms are also dependent in a far higher degree upon infection or intoxication than upon the heightened temperature, and that the lessened perspiration, the renal disorders and the digestive disturbances, with the possible exception of constipation, are referable likewise to other causes. In these conclusions other eminent authorities coincide. The chemical antipyretics, being simply anti-thermic, are therefore unnecessary in typhoid except perhaps in very rare instances. Again, as is well known, the quality of the blood in typhoid is seriously impared. Not only does it contain the products of tissue waste in abundance, but it is deficient in its nutritive and formative

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constituents. The red corpuscles are deficient in oxygen-carrying power and are disposed to disinterate. The antipyretics in question lessen the quantity of urine and the amount of urea, uric acid, sodium chloride, phosphoric and sulphuric acid execreted, thus favoring an accumulation of effete and toxic matter in the blood, and coincide with the disease in tending to destroy the red globules. They likewise coincide with the disease in their effects on the nervous system, and tend to the production of destructive parenchymatous changes in the liver and kidneys. Consequently they are positively harmful as well as unnecessary in typhoid. It is owing no doubt to the fact that the chemical antipyretics and the specific poison of typhoid have a like action upon the integrity of the red blood corpuscles and upon the kidneys that toxic symptoms are developed more frequently from the administration of these agents in typhoid than in any other disease. Another objection to their use is the fact that succeeding the temporary fall produced by their action the temperature frequently rises higher than before. It is not claimed for them by any one that they shorten the duration of the fever, while under their use the mortality, as shown by statistics, has markedly increased. Further proof of their inutility and harmfulness in this disease would seem to be unnecessary. A careful review of their action and its effects must inevitably lead to the conclusion of Brand, that the only advantage to be derived from them in typhoid is that the patient is able to die with nearly normal temperature.

For reasons already stated, diuretics and hydrotherapeusis would seem to be preferable to other means in the treatment of grave cases of typhoid. Quinine does not favor the execretion of the effete products of the system, and unless a malarial element be present it has little if any value in large doses except to lower the temperature. If unabsorbed from the stomach, as sometimes happens when given in solid form for an antipyretic effect in typhoid, it passes down through the intestine and is likely to increase diarrhœa by its irritant effect upon the ulcers present. When absorbed it adds to the effects of the fever by its action on the blood, the heart, the respiratory and vasomotor centers and the sensorium.

Chloral, aconite, veratrum and antimony are too depressing to the heart.

It may be admitted that there are objections to sponging or the bath treatment, but they do not outweigh its advantages. Like all other powerful and valuable remedial measures, it re-

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quires the exercise of judgment in its use to adapt it to the condition of the patient and the stage of the disease. It is an annoyance to the patient, and is less convenient than the expectant plan of treatment, or the administration of the coal tar products. Popular prejudice is also against it, but it is confidently believed that with clearer views of the pathology of typhoid and other adynamic diseases, and of the ends to be accomplished in their treatment, this plan will obtain more and more. With our present light on the subject but one better thing can be suggested, to-wit: A special antipyretic to antidote the specific cause. In the absence of this, sponging or the bath treatment must continue, for the present, at least, to yield the most triumphant results.

In the periodical group of fevers due to malaria, quinine, as all will admit, is the antipyretic *par excellence*. It is a positive antidote to the malarial miasm, and destroys or removes from the system the exciting cause of the disease. The cause having been removed, the resulting functional disturbances subside. Quinine is in such cases an antifebrile remedy as well as anti-thermic, and should be used to reduce high temperature caused by malarial miasmatic poison in preference to anything else.

High temperature due to rheumatism is probably best controlled by the coal tar derivatives. Their beneficial effects are seen not only in reduction of fever heat, but also in relief from the articular and muscular pains, and in subsidence of the local swelling. Statistics would seem to show that they do not materially shorten the disease, and therefore lack the specific power which quinine has over the paroxysms of ague. But they control better than any other antipyretics the manifestations of the disease, and contribute more largely to the comfort of the patient. Occasionally they fail to relieve hyperpyrexia, when quinine may be given or baths employed. In this disease the conjoined administration of alkaline diuretics, as all are aware, has a most salutary effect.

As compared with each other, salol stands first of the chemical antipyretics in point of safety. Though slower in its action than some of the others, it is quite as efficient in many cases, and produces less injurious after-effects. Antipyrin is prompt in action and less toxic than any of the others of equal power except salol. Acetanilide more seriously affects the composition of the blood, and the same is true of phenacetine, which is closely allied from a chemical standpoint. Thallin, kairin, hydroquinone and resorcin should not be used. In

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small doses they exert a destructive influence on the red blood corpuscles sufficient to condemn them, and in doses only slightly larger than are sufficient to lower the temperature they cause heart paralysis.

The initial high temperature of sthenic pneumonia is combated most promptly and effectively by venesection or a full dose of quinine. Both reduce and equalize the circulation, which is all important at the outset. During the first stage the condition of the pulse is a better guide for the administration of remedies than the thermometer. Quinine is to be preferred to aconite, veratrum and other heart depressants at the beginning, because it acts more promptly when not a moment is to be lost, and because also of its effects on the movements and migration of white blood corpuscles. For the latter reason also it is to be preferred to the chemical antipyretics, which are destitute of such power. When given early enough it is the common experience that a proportion of cases are aborted as a result.

At the beginning of local inflammations, quinine given with or followed by aconite, veratrum or other cardiac and vaso-motor depressants, is admirably calculated to meet the pathological conditions present.

Fermentation in the intestinal canal is sometimes a cause of high temperature. In such cases salicylic acid, salol or naphthaline would seem to be specially indicated for reasons apparent to all.

If there is any agent capable of destroying or neutralizing the specific contagium of the eruptive fevers it remains to be discovered. In its absence the best method of reducing temperature, lessening excitability and restlessness, and promoting normal actions in the system, particularly in scarlatina, and rubeola, is the application of water to the surface of the body, with the administration of diuretics and diaphoretics internally. The chemical antipyretics produce no appreciable improvement aside from the reduction of the temperature; they cause retardation of the excretory functions; neither prevent nor modify the ordinary syndromes and complications of the eruptive diseases, and prolong rather than shorten their duration.

It is to be hoped that the time will come when we will be able to combat each fever with directly specific weapons. Until then let us be careful to make as intelligent choice as possible of the means at our command. If we cannot destroy or neutralize the cause of the disease, let us at least avoid hampering or disabling the system in its struggle for life.

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TRANSFUSION OF SALINE SOLUTIONS IN POST-PARTUM HEMORRHAGE.

By L. SCHOOLER, M. D., Des Moines, Iowa.

The transfusion of blood by either the direct or indirect method has been practically abandoned in this country and the safer and equally effective saline solution substituted. The dangers of the former method and the difficulty attending the operation with reference to apparatus as well as the difficulty in obtaining a supply of human or even animal blood, have frequently proved insuperable, and could in most cases of post-partum hemorrhage be resorted to only in a lying-in-ward of a well regulated Hospital. With the saline solution the dangers to life are very much lessened, if not entirely avoided, while the efficacy of the fluid is fully as appreciable as when the direct method itself is resorted to, while the necessary apparatus is so simple that one can be improvised in every household where there happens to be a fountain syringe or funnel and a piece of rubber tubing.

Saline injections, so far as I know, had their origin in the treatment of cholera and were resorted to for the purpose of supplying the deficiency resulting from the copious alvine discharges that so rapidly deprive the circulating fluid of its serum.

Distilled water or sterilized water with some saline substance in sufficient quantity to give it practically the same specific gravity of the blood is, theoretically, the best fluid for this purpose.

It is but fair to state, however, that some writers have stated that clear sterilized water will prove equally effective, but the literature on this subject is so meager that one is led to believe that further investigation in this direction is necessary before any definite opinion can be formed, and unless it can be shown that the salines are really objectionable or harmful they should not be hastily abandoned, as the chloride of sodium is to be found in a fairly pure state wherever this operation is likely to be performed. The other soda solutions, such as the liquor sodæ are frequently combined with the chloride. They are not by any means essential.

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When thrown directly into a vein or artery the effect is two-fold. The primary action is to fill the empty and collapsed blood vessels as well as the cavities of the heart, so that that organ, instead of contracting upon space, propels the fluid to every portion of the body, where it is taken up by the absorbent vessels and partially, at least, fulfils the office of the blood, thus constituting the secondary effect.

Transfusion in any of its forms, or by whatever method, is resorted to for its temporary effect. It supplies a deficiency or arrests a cause that is certainly a deficiency until the blood-making organs have had time to supply the required quantity of that fluid, which, fortunately, does not require a very long period of time in persons who are in good health and who are sometimes the subject of accidental hemorrhages, and it is in these subjects that we are to expect the best results. In pernicious anæmia, where the difficulty is with the blood-making processes, primarily no benefit can be expected from any form of this operation.

My experience with this operation has been more limited than I intended it should be when I promised this paper, but a series of circumstances over which I apparently, at least, had no control, having conduced to this state of affairs, preventing my carrying out a well matured plan of a series of experiments upon the inferior animals, which I had hoped might prove of sufficient value to merit a place on the program of this Society. My first experience was upon the human subject, and the result so happy that I will relate the case as fully as possible:

July 5, 1889, was called to see Mrs. F., aged 23 years. Blood, family and personal history excellent; had been confined eleven days previously; convalescence had been rapid and uneventful up to that time, which was 12 p. m. During the day she had partaken freely of ice cream and berries, had retired early and slept two hours when she awoke with cramps and sickness of the stomach; vomited freely, hemorrhage occurred during the act of vomiting. Dr. Ward was called and I arrived one hour later. When arrived the hemorrhage had ceased; pulse was very feeble and too rapid to be counted; countenance was blanched, extremities cold, body bathed in perspiration; was very restless, complained of being very tired; had had several injections of ergot and four of whisky; no effect upon the circulation whatever; within half an hour became pulseless; heart's action very feeble, and still restless, rapidly becoming comatose; hot water enemas, warm applications to

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feet, had no effect, and as she was sinking rapidly we agreed that transfusion was indicated and a hard rubber funnel and three feet of flexible rubber tube one-half inch in diameter were procured and to this was attached the dome-pointed aspirating needle of the "Allen's Surgical Pump," median cephalic vein was opened and twenty ounces of a solution containing xciii grs sodium chloride, xx minims liquor sodae to two pounds of distilled water were thrown in in sixteen minutes. At the end of the first five minutes the pulse returned to the wrist and at the end of ten minutes it could be counted and was 160 per minute. At the end of the sixteenth minute it was 143 per minute, and at the end of the first half hour it was 120 and improvement continued uninterruptedly. When the incision was made over the vein it was found entirely empty and collapsed, and gentle stroking along the course of the vein failed to discover any evidence of blood. The body seemed to be practically bloodless.

Very little, if any, of the ergotine or whisky injections entered the circulation. At each puncture there was present a circular spot as large as a silver dollar, almost identical in appearance with a purpura hemorrhagic spot and these spots all sloughed down to the muscular tissue.

While this solution was thrown in more rapidly, perhaps, than is advisable in most cases, no bad results followed. The temperature never going above 101. This was, of course, a case of secondary hemorrhage after parturition, but the principle is applicable in primary cases as well, and we think, in this case, saved life.

The two following experiments were performed upon the lower animals with a solution, three grains of sodium chloride to the ounce of distilled water, and with the same instrument:

February 2, 1890, a large bitch, weighing sixty pounds, had had both ovaries removed and ears trimmed four days previously. Bleeding from ears had been exceedingly free, so much so that she was weak, exhausted and almost lifeless. Pulse 160 compressible, temperature 102° Fahr. No appetite. Injected into the jugular vein twenty ounces of the above solution at a temperature of 105 degrees Fahr. in six minutes. Temperature eight hours later was 102½ Fahr., pulse 130. Twelve hours after the injection, temperature normal; pulse normal; appears greatly improved. From this time recovery was uninterupted.

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EXPERIMENT SECOND.

Common cur; weight 30 pounds. Choreic. Temperature 101; pulse 120; sixteen ounces were taken from jugular vein. At end of bleeding the temperature was 102; pulse 165; respiration 28. Injected sixteen ounces of the same solution in seven minutes. When injection was completed pulse was 160, Respiration 24, Temperature 102. Cardiac sounds much improved. Eight hours after the temperature was 101; respiration 24; pulse 140; twelve hours after pulse was 120; respiration 18; temperature 101. Appears as well as before the operation.

Pregaldins has injected a six per cent solution of salt into the subcutaneous abdominal tissue of dogs which had lost two-thirds of their blood. Recovery followed. He also treated hemorrhage after abortion in the human subject in the same manner, using two pints of fluid. Speedy recovery ensued.

Munchmeyer reports eight cases of severe post-partum hemorrhage successfully treated by this method with a 6.1 solution of sodium chloride. The instrment for the performance of this operation is the same as where the solution is thrown into the veins. With this method I have no experience, but if the results are as uniformly good as in the previous method it is the preferable one on account of its simplicity.

REPORT ON MATERIA MEDICA.

S. H. Stutsman, M. D., Burlington.

While the past year and its immediate predecessor have been prolific of new therapeutic agents, many of which the almost universal prevalence of an epidemic has put to a prompt test, we have witnessed the revamping of some old favorites, the extension of the uses of some, and doubtful decision for and against others.

Time will not wait upon this occasion, for any thing more than a brief recalling to your attention the names, importance and value of a few of the former, with perhaps a casual reference to the newly found or ascribed merits of the latter.

The hope long deferred, and yet maintained, of the sympathetic practitioner, and the conscientious chemist as well, has been and is for a drug which will bring sleep; with it a surcease of pain, and which shall leave in its wake no train of hopeless evils.

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That this search has not been an altogether vain one is evidenced by the list of narcotics and hypnotics in our pharmacopœia; but that the finds have not been completely satisfactory is duly attested by the vigor with which the search goes on in our own and other countries.

Among the late and most important, probably at the head of the list, of recently developed hypnotics may be ranked, sulphonal, a new compound worked out by Bauman and strongly indorsed by Professor Kast, of Freiburg, Dr. Rabbas, of the insane asylum in Marburg, and a number of other gentlemen who have welcomed this new remedy with what we might fear to be an overweening confidence, and an enthusiasm unwarranted by time and experience.

Sulphonal has been clearly described (as to its constitution and manner of making) by Fischer in the Pharmaceutical Zeitung. Being too tedious for repetition here, we may just glance at its qualities and the claims made for the compound. Sulphonal crystallizes in large tables, without color, odor, or taste; it melts at 130° to 131°, boils at 300°, dissolves in eighteen to twenty parts of boiling water; but requires one hundred parts at the ordinary temperature; is soluble in alcohol or alcoholic ether, unaffected by acids or alkalines or by oxidizing agents hot or cold, and resists attacks of concentrated sulphuric ether, fuming nitric acid, chlorine and bromine. Dr. Rabbas, after the administration of this remedy more than two hundred times in twenty-seven different cases of the greatest variety of affections, testified very strongly in its favor; that in doses of 30 to 45 grains a better action obtained than in larger doses of amelyne, hydrate and paradelhyde, action successful even in persons addicted to narcotics; preferred to chloral hydrate because the effect, although not so rapid, is more lasting. Sleep occurs in half an hour, though in some cases delayed for two hours, but lasts from six to eight hours. The appetite, digestion, respiration and action of the heart remain unimpaired, while long continued use of the drug produces no ill after-effects, nor necessity for increase in size of the dose.

Dr. Julius Schwalbe recommends sulphonal in cases of nervous insomnia in 15 to 30 grain doses; thinks it peculiarly suitable to children, but cautions against its free use in all cases where there is heart weakness. Dr. William H. Flint, of New York, in the New York Medical Journal, reports thirty-three cases in which extreme care was taken in investigations

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relating to patients and where to prevent any effect of the mind upon them, sulphonal was given without the knowledge of the patient as to its effects. Dr. Flint has a rate of eighty per cent of successes in his cases and has not yet seen a sulphonal habit; and gives to the drug an earnest endorsment. The general conclusion to be deduced from these experiments will go far to justify the early ardor of Kast and others, yet, while we find no end of favorable testimony, we are not to assume that there are no adverse opinions. Sulphonal, like many another most useful drug, has been "weighed in the balance and found wanting" by some other earnest and careful investigators whose experiences, however, do not convince us that we have not in sulphonal a valuable addition to our list of sleep producing drugs.

Ural, a new hypnotic, a combination of chloral hydrate with urethan, is recommended by Dr. Gustavo Poppi as producing a quiet sleep, more rapidly, and which lasts longer, than that of any other known hypnotic, with no disagreeable accidents in given therapeutic doses; no distress or discomfort upon awakening, while its use may be persisted in for some days without disturbance of the economy. Dr. Poppi claims that ural has acted happily in cases of heart disease, hysteria and other nervous affections, where other hypnotics had failed.

Less recently, experiments made by some French physicians with the glucoside contained in boldo leaves and called boldine, brings out its value as a hypnotic. The amount of glucoside contained in boldo leaves is about three per cent. The drug is given in capsules of two grammes or as an injection, five grammes of boldine to 3¼ ounces of water; it produces a natural sleep. Doses of 77 to 154 grains given daily, *with no evil resulting.*

Somniferine is the name given by Bombelon, its discovery to a new morphine ether claimed to be superior to morphine. Smaller doses given with good results, neither headache nor constipation following, and the heart not affected.

Phenacetine, a new claimant for favor, is deserving of a more extended notice than is here possible, because of its double action and also because there are three of them, the meta, para and ortho acetphenetidines. To the first are ascribed no therapeutic properties; to the second those which are more powerful than those of the third and more satisfactory.

Dr. Dujardin-Beaumetz, in a paper read more than a year ago before the British Medical Association at Glasgow, dis-

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cussed the history and chemical properties of this drug; its insolubility was noted which will hinder any hypodermic exhibition. It was pointed out that if phenacetine has any toxic effect it is indeed very slight. One and one-half gramme lowers fever from 1° to 2°, which effeet lasts for four hours, some times longer. While in fevers phenacetine has been thought superior to antipyrin and acetanilide in its antithermic effect, it remains for it to lead both of these remedies as an analgesic. Dr. Dujardin-Beaumetz claims that he has given it for months daily in quantities of from one to two grammes without observing any ill effects, and has given it for every form of pain with the happiest results; has had no stomach pain or rash which some times follows antipyrin, nor cyanosis which results from free use of acetanilide. Of the two latter of these salts, the para and ortho, the last should be given in larger doses than the first, a medium dose of the para being 1.5 grammes to 2 grammes per day. Dr. Dujardin-Beametz urges the general use of these salts, for a number of plausible reasons, among them, a most powerful argument, that they have no toxic effect, and being greatly antagonistic to fever and pain, should be used instead of antipyrin; because they act in doses one-half smaller, because they are one half cheaper, and because finally there is no monopoly in their manufacture.

Exalgine, a new analgesic, was discussed in a very interesting way by Drs. Dujardin-Beaumetz and Bardel recently, before the French Academy of Science.

Exalgine is an isomeric methyl derivative of acetanclide. It is sparingly soluble in water, quite so in hot water, and readily so in dilute alcohol. In its physiological action it resembles antipyrin. Characteristic results obtain after a dose of from four to six grains taken at once, or from six to twelve grains taken in two doses in the course of twenty-four hours.

It is noted that when the painful sensations are destroyed, the tactile sense remains unaltered.

Like all the other aromatic series it is antiseptic and antithermic as well as analgesic, though this last property is most marked.

Among the new antiseptics may be noted a double cyanide of mercury and zinc, whose merits have been extolled by Sir Joseph Lister, the eminent father of antiseptics, in a paper read before the London Medical Society. The preparation is a solution of soluble double cyanide of mercury and potassium with the addition of a soluble zinc salt; a precipitate is formed which

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when freed from impurities by several washings is the new antiseptic, whose actual chemical constitution is yet uncertain, but Lister has used it in very many cases, both in solution and gauze, and he pronounces it very efficient.

Dr. Rotter, of Germany, set himself the task of producing an antiseptic which to its prime essentials, antiseptic usefulness and non-toxic effect, should be added a number of other prerequisites; that above all it should be cheap; that it should be colorless and without odor, readily soluble in ordinary potable water, and that the ingredients should be as easily procurable and solid, so as to be pressed into tabellæ for carrying about.

The result of his efforts is an ambitious compound, non-poisonous, called rotterine, which is in high favor in Germany and has a promising future because of its astonishing antiseptic power and germicidal influence.

The composition was made upon a theory that a mixture of several disinfectants in such small quantities that each possessed no individual action, but whose aggregated influence would be very effective. Results seem to have justified Rotter's faith.

Sanitas, another of this class, is a rather sweet smelling member, being made up of compounds of camphor, peppermint and other such drugs, it forms a mild and quite harmless antiseptic.

A growing favorite on this list is creolin, which has found such high favor and appreciation in continental hospitals and clinics, especially in Germany and France, to the almost entire exclusion of corrosive sublimate.

Creolin consists of a number of different hydrocarbons, each very dilute, having but little antiseptic influence when alone, but of acknowledged power when combined, and it is non-poisonous.

Sozoiodol, a compound of iodine, phenol and sulphur, is not, strictly speaking, new. Professor Wagner, of San Francisco, employed it in the treatment of skin diseases some years ago, but was forced to abandon it on account of its irritating qualities.

Recently it has been prepared in an entirely pure state, appearing in pure white crystals, and non-irritating.

The well known antiparasitic qualities of each will commend the compound to all, to specialists in dermatology particularly. Dr. Oscar Lassar, of Berlin, in his clinics has given

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some study to sozoiodol and reports in favor of its use, either in a salve or powder on healthy or diseased skin. We may reasonably expect much from this remedy, though time has not yet allowed the most careful tests.

Chloride of methyl was discovered in 1834, hence is not at all new, but its production implied such complications and expense as to prevent its general use. C. Vincent, of France, has invented a cheap process for its manufacture; from the remnants of beets used in the manufacture of sugar, he extracts the chlorate of tri-methylamine, which, when subjected to sufficient heat, produces the chloride of methyl. It is said to be very effective in relieving all forms of neuralgia and permanently curing a majority of cases. Dr. Jacobi, president of the New York Neurological society, says his impression is after a brief experience that we have in chloride of methyl a reliable analgesic, invaluable in the treatment of neuralgia, being one which does not effect the general condition of the patient.

Dr. M. L. Rhein, D. D. S., in New York, thinks it the most reliable local anæsthetic in use among dental surgeons, though he places some restrictions upon its use. The method of application most in use is direct from the spray. In the second method the part is first covered with glycerine, the assumption being that the glycerine intensifies the degree of cold produced.

Dr. Bailey uses a tampon of prepared cotton covered by fine silk; while holding the tampon in place with a pair of dressing forceps, he deluges the tampon with the spray, pressing against the painful spot; more intense cold is obtained in this way.

A new and extended use of antipyrin as a local anæsthetic is spoken of and strongly recommended by See and others. The administration is by subcutaneus injection, pain being relieved in a few seconds, relief lasting for at least six hours. No sweating, no vomiting and no depression of heart pulse were noticed, neither any rash upon the surface.

Dr. Parisi, by an accident, discovered a heretofore unsuspected virtue in cocoanut. After eating the meat of the nut and drinking the milk, he experienced slight nausea, gastric disturbance and diarrhœa. The following morning he voided a large Tænia with the head attached. Suspecting the offices of the cocoanut, he made extended inquiries to learn, if possible, if ever before such qualities had been ascribed to it, without

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finding any evidence of such. He was emboldened, however, to experiment upon his patients in Athens, and had good results in six cases. If experience confirms these results, cocoanut will prove to be a favorite and convenient anthelmintic, being always ready and agreeable.

Dr. Alexander Bowie, in the London Lancet, Sept. 14th of last year, made a strong plea for the inhalation of superheated air in the treatment of phthisis; recalling to mind the fact that inhalatory treatment of phthisis is as old as Hippocrates, and another acknowledged fact that the baccillus of tubercle does not flourish in a temperature as low as 94° nor higher than 107.6°. Dr. Bowie expressed surprise that until recently no one has suggested the destruction of these by exposure of the diseased surface to a temperature known to be fatal to them, especially as every other to be thought out method of treatment by inhalation has been freely tested. An interesting case cited shows very encouraging results. The apparatus employed was Weigert's, in which the temperature expired by the patient may reach 120° to 140°. The inspired air may reach 570° according to the thermometer in the tube, but Dr. Bowie thinks the inspired air, actual inspired air, is rarely if ever hotter than 280° to 300°.

It seems superfluous to add that but a small number of the new drugs and combinations have been referred to; a time limit renders impossible the merest mention of the greater number, a portion of which may be destined before long to rank among the most valuable in our pharmacy.

It is no slight upon the distinguished Brown-Sequard if a resume of the remedies of the last year should be written, without any reference to his discovery of the fountain of youth. Other men have sailed the seas over in search of this alluring bubble—all in vain—and yet in the quiet of his own laboratory, this is his claim, has the eminent Doctor discovered a method of renewal of vitality.

You are all familiar with his method. The world has laughed at the experiments upon himself, and still the word comes to us over the seas that the learned Doctor continues to experiment, and also continues to not grow older. This, however, may be regarded as one of the secrets which time has promised to tell.

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FOOD IN ITS RELATION TO HEALTH

By J. F. Kennedy, A. M., M. D., Des Moines.

"Eat, drink and be merry," have, from to time immemorial, been the aim, and we can say of the two former, the imperative demand of not merely the human family but of all animated nature.

The questions, "What shall we eat?" and "What shall we drink," daily confront us; and upon their rightful solution depend the health, prosperity, and morality of every individual.

E. P. W. Glasgow, in a recent issue of the *Hospital Gazette*, facetiously says:

So it has come to this, that men
Must dine no more on flesh again,
The chances being nine to ten—
Tuberculosis.
The thought's enough to there and then
Cause cyanosis!

I wonder what is safe to eat!
Swine seems as bad as butcher's meat,
For porcine flesh they say's the seat
Of trichinosis,
And even tea, that household treat,
Brings on neurosis.

They are all tabooed—well, let them go!
What though it brings my system low,
And fond friends cry in thoes of woe,
"He's got chlorosis!"
Impoverished blood is less a foe
Than scrofulosis.

Farewell my modest evening tea!
Microbic flesh depart from me!
Seductive beer it may not be!
Who wants cirrhosis.
E'en sugar's not suspicious free,
There's teeth necrosis.

No more the cherished hope I'll hug
That all this cry is mere humbug;
Henceforth I'll feed on "flesh that's dug."
If plants have "oses,"
I'll swill some antispeptic drug
In treble doses.

Our poet, in his perplexity and wandering through the "oses," raises a question dear to the heart, and of vital importance to the stomach of every one, and it shall be my object in this paper briefly to consider in a practical way the principles that enter into a consideration of the question of food supply.

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Since the processes and activities of life result in continual waste of the tissues of the body, it is apparent that a healthy standard of life can only be maintained by the use of those products that repair this loss.

A food may be defined as meaning anything "which when taken into the body, aids in building up, or repairing tissues, or, by being oxydized or burned in the body, produces vital force or energy." Hence those foods are most beneficial which contain the greatest amount and variety of assimilable and easily digested nutritious substance.

As a general proposition it may be stated that all proper food-supplies should contain those substances, that, under proper assimilation, will make bone, muscle, nerve fat, etc., and that will in due proportion furnish the fluids required to maintain the physiological functions of the body. To do this it has been demonstrated that food to meet all the requirements of the animal economy shall possess in varying proportions,

1. Water.
2. Proteids or albumen.
3. Fats.
4. Carbo-hydrates.
5. Salts or mineral constituents.

The large per cent. of water found in most of our articles of diet, especially in meats, fruits, and vegetables, together with the fluids we drink, fully meets every ordinary demand as a water-supply; and the salts combined by nature with our food, and used as seasoning, furnish generally a due proportion of the mineral constituents. There is therefore left for consideration, the proteids, fats and carbo-hydrates, which may be regarded as the three great food principles, and a proper selection and preparation of the articles of food that contain them in due proportion, constitutes the wisdom of all sanitary dietetics.

In a general way it may be stated that each of these three food principles has a specific function to perform; that the proteids are "flesh foods," the fats "heat foods," and the carbo-hydrates "work foods."

The *proteids*, otherwise called albumens, constitute the most important and essential of all food supplies. They are found principally in eggs, milk, meat, grains, peas and beans. The blood, muscles and the vital organs are supplied almost entirely by proteids, and hence those foods richest in albumen are best adapted, indeed essential, to their proper development

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and functional activity. The laboring man, to keep in a healthy condition, should have daily from four to five ounces of proteids in his food. No food can take the place of the proteids in the animal economy, though by assimilative processes one proteid may be converted into another.

Physiologists, however, know of no process by which a fat or a starch may be converted into a proteid. The office of the *fats* is by their combustion, or oxidation to produce vital heat, and thereby contribute to vital energy. This accounts for the well known fact that in cold countries the inabitants instinctively consume large quantities of such food. In this climate an ordinary laboring man requires about two ounces of fat daily.

The *carbo-hydrates* consist of those foods which furnish chiefly starch, sugar and dextrine, and the proportion required to impart sufficient strength to the laboring man is from fifteen to eighteen ounces per day.

Of the food furnished by the animal kingdom, *meat* is the most valuable since it consists of water, proteids, fat and mineral salts. Maturity in animals greatly adds to the value of such food. Veal and lamb are not nearly as easily digested, and not so nutritious as beef and mutton. On the other hand animals may be so old and so poorly nourished as to utterly defy mastication and digestion. The better breeds of cattle furnish the best beef at from four to five years of age, ordinary cattle later, generally not before six or seven years of age. In order too that animal food should be at its best it should be used in season. While beef may be said to be always in season, yet it is never so nutritious and palatable as in the fall, especially in well-pastured stock. Fresh pork is not at all desirable in the summer and the same may be said of fish and some other kinds of animal food.

Prof. V. C. Vaughn, of Michigan, gives the following rules for the selection of meats: "Good beef has a reddish brown color, and contains no clots of blood. Well nourished beeves furnish a flesh which, while raw, is marbled with spots of white fat; it is firm and compact. Old lean animals furnish a flesh which is tough, dry and dark; the fat is yellow. Veal is slightly reddish, and has tender, white fibres. The fat is not distributed through the lean as in beef. The same is true of mutton. In well nourished animals white fat accumulates along the borders of the muscles. Good beef is not of a pale, pink color, and such a color indicates that the animal was diseased. Good beef does not have a dark purple hue, for this color is

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evidence that the animal has not been slaughtered, but has died with the blood in its body, or has suffered from some acute febrile affection. Good beef has little or no odor, or if any odor is perceptible it is not disagreeable. Tainted meat often gives off a plainly perceptible and disagreeable odor while being cooked. Good meat is elastic to the touch. Meat that is wet and flabby should be discarded. It should not become gelatinous after being kept in a cool place for two days, but should remain dry on the surface and firm to the touch. Meat which has been frozen decomposes easily after being thawed out and when cooked it is dry and insipid."

Gerlach, the Director of the Royal Veterinary School at Berlin, advises against the use of—

1st. The flesh of all animals which have died of internal diseases, and of healthy animals which have been killed by overdriving.

2d. The flesh of animals with contagious diseases which may be transmitted to man.

3d. The flesh of animals which have been poisoned.

4th. Flesh which contains parasites which may be transmitted to man.

5th. The flesh of animals with severe infectious diseases, such as blood poisoning.

6th. All putrid flesh.

In a paper of this kind it would take too much time to note the relative value of the different kinds of animal food. I might say, however, in regard to fishes that while they furnish a grateful change from the ordinary meats, they can never become popular as an exclusive animal diet. They lack the stimulating properties necessary and unless quite fresh, they are not only not palatable but repulsive. Fish taken from polluted streams should never be eaten. They are generally flabby, pale or yellowish in color, soft and spongy and have a bad odor. There is a popular but mistaken notion that because fishes are rich in the phosphates generally, they are therefore specially adapted to brain workers and to those whose nervous system needs support and repair.

Milk is perhaps the most perfect of all foods. It represents in proper proportion all the five food principles. It is especially adapted to childhood and during the most rapid and important changes of early life it is the only proper physiological food. And yet milk instead of being what nature intended, a most agreeable and nutritious agent, may become a poison.

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In the first place healthy milk can only be given by healthy cows. That from diseased cows should never be used as food. The best of milk may be contaminated by untidy habits on the part of the dairyman, by being exposed to foul and noxious odors or by being kept in improper receptacles.

The following kinds of milk are unfit for use:

(1.) Milk which becomes sour and curdles within a few hours after it has been drawn, and before any cream forms on its surface.

(2.) "Bitter-sweet milk" is that whose cream has a bitter taste, is covered with blisters, and frequently with a fine mould. Butter and cheese made from such milk cannot be eaten on account of the disagreeable taste.

(3.) "Slimy" milk which can be drawn out into fine ropy fibres. It has an unpleasant taste which is most marked in the cream.

(4.) "Blue milk" is characterized by the appearance on the surface, eighteen or twenty hours after it is drawn, of small indigo-blue spots, which rapidly enlarge until the whole surface is covered with a blue film. If the milk be allowed to stand for a few days, the blue is converted into a greenish or reddish color. This coloration of the milk is due to the growth of a microscopic organism. The butter made from "blue" milk is dirty white in color, gelatinous in consistency, and bitter in taste.

(5.) "Barn-yard milk" is a term used to designate milk taken from unclean animals, or those which have been kept in filthy, unventilated stables. The milk absorbs and carries the odors, which are often plainly perceptible. Such milk may not be poisonous, but it is repulsive.

It is generally admitted that typhoid fever, scarlet fever, diphtheria, consumption and other infectious diseases may be caused by milk which has been exposed to, and contaminated by the peculiar contagium producing these diseases.

That peculiar disease known as "milk sickness" which has been prevalent in many localities in Illinois, Indiana, and some other states is generally attributed to some native plant eaten by the cattle.

On the fourth of last July, a large number of persons were seriously poisoned by eating ice cream at Adair in this state. It had been flavored with vanilla and it was generally believed to be a case of vanilla poisoning, if there is such a thing. Specimens of the cream, and of the vanilla, were sent

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to the State Board of Health for analysis. Teaspoonful doses of the extract of vanilla, taken internally, produced no toxic effect. The ice cream, however, was, upon analysis, found to contain a considerable quantity of the crystals of tyrotoxicon, an alkaloid discovered by Prof. Vaughn. This ptomaine seemed to have been developed by the high temperature of the weather, and the agitation from hauling the milk for some distance which produced fermentation. The tests were made by Dr. Robert McNutt, of this city. This alkaloid has been found in cheese, canned meats, etc., and when taken into the stomach with the food, it always produces severe gastric and intestinal disturbance with great prostration and even death.

Since this fermentation is apt to occur, and to be present even in milk that has not soured, a majority of the medical profession who have given any thought to the subject, believe that cow's milk, before being fed to infants, should be thoroughly sterilized.

The Dietetic Gazette, quoting Dr. H. C. Haven, says:

"It is an admitted fact that the sterilization of milk is one of the most important advances that has been made in regard not only to the treatment of digestive disorders of infancy, but also in artificial infant feeding." He, however, sounds a note of caution when he says: "We must not overlook the fact that the fermentative changes which have already gone on in the milk before its sterilization may have given rise to products of albuminoid fermentation, which may be in themselves sources of disease which cannot be prevented by sterilization of milk at the time of consumption."

It also quotes Prof. John Ottfield, of London, as saying:

"Many failures have conduced to success, and, as usual, have led to simplicity as regards practical processes. Shortly, I find, as a matter of principle, that if you succeed in getting the whole of your material to a temperature of 190° F., for one hour, you render it perfectly sterile. Only when you are dealing with a fluid in an active state of bacterial or microbic growth do you need to heat it again, similarly, on a second day to destroy the individuals which were in an earlier state of existence on the previous day—a state in which they existed at 199° F.; in all other cases, one heating is enough."

The *Gazette* in conclusion says:

The present state of information regarding the sterilization of milk, may be summed up as follows:

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1. Absolutely pure and fresh milk. This can only be guaranteed in the country, near the source of supply.

2. A temperature of not less than 190° F.

3. Hermetically sealed containers which have been themselves sterilized.

4. The process of sterilization should be conducted by experienced operators, who can determine when the milk is actually sterilized. That this is necessary is evinced by the fact that milk which does not sour is not by any means certain to have been sterilized.

I believe that cholera infantum is produced by the presence of this poison in the milk given to infants, and that the rubber tube, used in the nursing-bottle, is one of the chief factors in the development of tyrotoxicon. It is almost impossible to cleanse these tubes, and the retained milk and the hot weather favor the peculiar fermentation that results in the formation of this ptomaine. It has been demonstrated that warm healthy milk placed in closed cans which retained its heat, in a few hours develops a quantity of tyrotoxicon sufficient to produce serious if not fatal poisoning. Milk should never be allowed to stand uncovered in an occupied room. The exhalations from the breath and skin of the inmates and floating particles of dust laden with disease germs are almost sure to find their way into it. There is no *fat* so easily digested, nor so palatable, as good fresh *butter*, and none which in a higher or more perfect sense represents the important class of heat producing foods. So universal is its use; so imperative the demand and so inadequate the supply at a price within the reach of the poor, that recently inventive genius has placed upon the market some substitutes, notably *oleomargarine* and *butterine.*

Michigan and New York and possibly some other states have very stringent and very unjust laws absolutely prohibiting the manufacture and sale of these substitutes. Iowa, while allowing their manufacture and sale, requires them to be labeled true to name, seeking only and justly to prevent their fraudulent sale under guise of butter. Both these preparations are valuable food-stuffs, infinitely more wholesome and palatable than much of the vile stuff sold as butter. In the manufacture of oleomargarine the best beef fat is cut from the animal while it is still warm. After rejecting all the soiled and tainted portions, the remainder is cooled and washed in fresh water. It is then ground and afterward heated to about 170°. An oil is thus extracted which is salted and cooled. A coloring matter

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is added when it is put with milk into a churn. After thorough churning it is "worked" as butter, prepared into moulds or cakes, and is ready for market. When properly prepared it is hard to tell it from the best creamery butter. Butterine differs from oleomargarine in having a given proportion of hog fat added to the beef fat. The processes of manufacture are the same as for oleomargarine only the temperature requisite is only about 120°.

Fresh eggs furnish a large amount of nutritious material. An ordinary hen's egg weighs about two ounces and has about 60 per cent of white or albumen and 30 per cent of yolk which is principally composed of fat. Though the eggs of but few birds are used for food, it is not known that the egg of any bird is poisonous. The habits and food of birds determine largely the taste and odor of their eggs, and their fitness for food. The digestive and nutritive propensities of raw eggs and of those which the albumen is merely coagulated are about equal. The hard boiled egg is much harder to digest.

Cheese is highly nutritious, being much richer in proteids and fat than meat. Owing, however, to its severe tax upon the digestive organs, it can only be taken into the stomach profitably in comparatively small quantities. Its value as a food depends largely upon the milk from which it is made, whether from "whole" milk or from skimmed milk, and whether the milk from which it was made had undergone fermentation and the consequent development of tyrotoxicon.

Of the vegetable foods we have as the most important wheat, rye, oats, corn, rice, potatoes, peas, and beans, and they are valuable and health-giving in the varying proportions of proteids, fat, sugar, gum and starch they contain. Peas, beans, and wheat contain the largest amount of nitrogenous or flesh-making material. Oat meal and corn the greatest amount of fat and hence of heat-producing substance, and corn, buckwheat, peas, beans, and potatoes the largest amount of starch. Oat meal, peas, beans, and buckwheat are richest in the phosphates, and corn, oat meal and wheat furnish the most sugar.

The best known and most important food product from grains is bread which has rightly been called the "staff of life." Prof. Vaughn says of this well known article of food: "The most important food constituents of the grains, and consequently of bread, are the proteids, starches, and ash. The amount of nitrogenous matter is too small for a perfect food and for this reason bread is often taken with some other food

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richer in nitrogen, such as meat. Bread is also deficient in fat, and man instinctively takes some kind of fat, such as butter or bacon, along with his bread. Notwithstanding these imperfections, bread is a food of which we never tire and the various ways in which it is prepared aid in sharpening the appetite. Besides while some important food substances are not abundant in bread, all are present to a greater or less extent, and with the addition of a little more nitrogen in the shape of meat and fat, as butter or bacon, a perfect diet is secured."

What is more luscious than fruit—more tempting to the eye, more pleasing to the taste! And yet judged by the food principles enunciated it possesses but little food value. It is a luxury and an appetizer, and is eagerly sought by young and old alike. I may be pardoned for again quoting from Vaughn: "The real value of fruits judged by their chemical composition is small, but when thoroughly ripe and well preserved they act beneficially upon the system, improving the appetite, and maintaining a healthy condition of the various vital organs. Probably no fruit is necessary to life, and fruits may be regarded as luxuries, but man's instinct and cravings prompt him to obtain them often, even when their cost is considerable. Undoubtedly they are most highly prized by the inhabitants of warm countries where foods which produce but little heat are desirable. The most enjoyable part of fruits is their juice, which consists principally of watery solutions of sugar and acids. The amount of sugar in fruits varies from one to eighteen per cent. The cellular parts are not easily disgested, and those fruits are prized most highly which have the greatest quantity of juice with the smallest proportion of cell structure."

I have thus hastily and I fear too superficially glanced at the root principles that govern the selection and determine the nutritive value of all food supplies. All the substances referred to as essential to proper nutrition, with many others that might have been mentioned, except milk and fruits, require for their use by the human family previous preparation by cooking. The nutritive value of all food stuffs depends entirely upon their digestibility, and this latter quality in a larger measure than is generally recognized is influenced by appearance, odor and taste.

And here is where the *preparation* and *cooking* of food plays so important a part. A food may be rendered by cooking so attractive in appearance and taste and odor as "to make the mouth water," and thus summon in advance all the diges-

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tive energies of the stomach and secure thereby its prompt digestion and assimilation; or, on the other hand, so repulsive as to disgust and repel; or, if taken under protest, to nauseate and retard, if not defy, digestion. This opens up a large, practical and highly important field which I dare not enter.

Good cooking is not only a wonderful factor in the production and maintenance of the highest standard of health, but contributes immensely to economical living. Edward Atkinson, L. L. D., of Boston, in his "Art of Cooking," in pleading for stopping the waste from improper cooking, and applying the saving thereby to the purchase of better homes and clothing, estimates the waste per day at five (5) cents for each adult, and at two and one-half cents per day for each child under ten (10) years of age. The aggregate of this waste per year at the present estimated population of the United States, amounts to the enormous sum of over $1,000,000,000 an amount greater than the cost of all the public buildings of Iowa. If this be true, and if good cooking also conduces to better health and greater ability for work, surely no further argument is necessary to convince all of the necessity of more general instruction upon the health-giving, palatable and economical preparation of food.

I am looking forward to the day when the selection and preparation of foods and the science and art of cooking shall be a part of the common school education of all the boys and girls of the land, when no young lady shall be considered "accomplished" unless she has a practical knowledge of this most important department of a well-ordered home.

Not only is it important, however, to know *what to eat* and *how to cook it*, but it is also important to know *when* to eat and *how* to eat.

As a general rule it is safe to eat when nature demands food, when one is hungry; and yet the amount eaten should never be sufficient to overload the stomach. There is too great a variety of food taken. A few articles of food, selected in conformity to the food principles laid down, are infinitely better than the conglomeration too often indulged in. I have known the stomach to be taxed with the effort to digest two or three kinds of meat, butter, milk, cheese, eggs, pickles, slaws, two or three kinds of vegetables, raw and cooked; bread, pastries, cakes, ice cream, coffee or tea, fruits, nuts, and occasionally malt or spirituous liquors, all taken at one meal. Such an imposition often results in a miserable failure on the part of

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the stomach in its efforts at digestion; and in producing gastric and enteric troubles with severe reflex headache and, if persisted in, in chronic dyspepsia.

It is best not to eat immediately after severe exercise, nor to eat heartily just before going to bed, though one should never go to bed hungry, if possible.

Some one has said, and truthfully:

> Great suppers a very great evil we call;
> That your sleep may be sweet let your suppers be small.

It is always dangerous to work hard, or to take any violent exercise immediately after eating a hearty meal. The best selected, and the best cooked food may under such circumstances become a source of danger, instead of one of satisfaction.

Iced drinks should not be used in connection with the meals, since no digestion can begin until the temperature of the contents of the stomach has reached about 100° F. Hence warm drinks if not taken so liberally as to unduly dilute the gastric secretions essential to digestion, are to be commended, especially hot water with a little cream and sugar. Coffee disagrees with many and should never be taken in the evening, nor just before going to bed, as it is almost sure to produce wakefulness.

There should be thorough mastication and insalivation of the food, and the time occupied in eating should never be less than thirty minutes—except at railroad stations.

In conclusion the facts stated in this paper may be briefly summarized as follows:

1. All vital processes result in constant tissue waste, which can only be adequately met by proper food supply.

2. All nutritive foods may be grouped into five classes—called the five food principles—viz: Water, proteids, fats, carbohydrates and salts.

3. All food supplies in order to produce and maintain the most perfect physical and mental development must contain all these food principles in proportions pretty definitely determined, and hence, neither an exclusively vegetable nor animal diet should be adopted.

4. All meats, to be commended, should be fresh or properly cured, and should always be from animals slaughtered in good health; and meat from mature animals is more easily digested than that from those inmature.

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5. That the grains and vegetables most nutritious are those richest in the proteids and fats, and that all vegetables should be as perfect as possible.

6. That bread, with a due proportion of butter or fat, is a perfect food.

7. That milk should always be from healthy cows, and should be kept in a cool place properly covered, and under conditions to protect against the possibility of pollution by disease germs.

8. That there is reason to believe that cholera morbus and cholera infantum, and the many cases of poisoning after eating ice cream and cheese, are due to the formation in the milk during fermentative processes of an alkaloid called tyrotoxicon.

9. That fruits are not rich in food products, but are desirable as luxuries and aids to digestion.

10. That the best selected food supplies demand for their proper digestion and assimilation, proper preparation and cooking; and

11. That the science and art of cooking should be an important part of the education of all our youths, not only in our colleges and high schools, but in the common school as well.

BIBLIOGRAPHY.

"Healthy Homes and Foods for the Working Classes," by Victor C. Vaughn, M. D.; "The Art of Cooking," Edward Atkinson, L. L. D.; "Food Materials," Edward Smith, M. D.; "Foods," Ellen H. Richards; "Foods, Composition and Analysis," A. W. Blythe, M. D.; "Sanitary Examinations of Water, Air and Food," C. B. Fox, M. D., and "Sanitary and Economic Cooking," Mrs. Mary Inman Abel.

DISCUSSION.

DR. EVERETT—Mr. President: I have a few words I would like to say upon that paper. To me at this time that question of food supply is a very important one, and I don't know of any better way of expressing myself than to give a case I had. In 1875, I was called to see a boy that had been thrown from a horse. The horse stepped upon the fore arm, fracturing the radius—the lower part of the radius—contusing the median,

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ulnar and radial nerves severely, and I found—the boy was then seven years old—I found that when this boy was two years and four mouths old he had drank lye, resulting in stricture of the œsophagus so that he was wholly unable to take any food except milk and soups, and that only sparingly. There would be some times two or three days at a time that he was wholly unable to swallow any food, then he could swallow perhaps a half teacupful of milk in half a day; he was very much emaciated, very anæmic; it was a question in my mind what results would follow: I found the system so low that it was scarcely able to keep up the running expenses of the system without repairing any breach. I expressed an unfavorable opinion upon what we might have. Of course, we know that bones unite in children more rapidly, but owing to general mal-nutrition I had great fears as to the result and so announced to the parents of the child. However, we went on and treated this arm and in a short time the boy sat up. As a result we had necrosis of the lower end of the radius; so some time afterwards I removed the entire bone up to the seat of the fracture, perhaps two inches above the lower end. As a result of that we had the end reflected to the ulnar side and we had that claw like appearance of end shown to be the result of nerve injury. Of course, after removing the bone, the wound healed up and the boy continued in this condition until about two years ago, when he had the œsophagus delated. Since then he has made rapid growth. The question of interest to me is simply this: Finding this patient in this condition and doing what I did for him, I was sued for ten thousand dollars damages because I didn't heal that bone. That is the reason this question of food supply to me is important. This case, while he could have lived upon milk, he failed to get the proper amount of milk. How far milk will support the economy in an adult is a question of quite a good deal of interest to me, and I would like to hear a discussion in reference to this matter of milk.

Dr. A. W. McClure, Mt. Pleasant—Mr. Chairman: I desire to say a word or two on this question; it is getting late

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but I will not detain the society very long. A train of thought was suggested to my mind by this valuable paper presented by the secretary of our state board of health in regard to cooking. I take it that a medical man in every community has much to do with the education of the people, and to discuss with the public the matter of education. The solution of the labor problem is involved in the economy in the production of food, the proper food for the laboring class, and the medical man must take a hand in that. Now, I take it that a girl can be educated in our public schools in a way that she may save to a family when she comes to stand as head of the family to a laboring man five cents a day. Suppose our girls can be educated in our schools in a way that they can save to a family five cents a day to each member of the family and furnish the same amount in variety of food that they do now, is that problem practicable? Any one, a physician especially, who is brought in contact with the mass of the laboring class, and not only the laboring class, but the mass of thousands of others, knows the amount of waste that results from bad cooking and the waste connected with cooking food that might be saved and economized. Take many of our German families, for instance, and many of our native Americans—I have seen that often—a German family on the same salary—a laborer on the same salary—raising a family in a healthy condition, accumulating property and home, living comfortably, educating his children and having them grow up in thrift, while an American probably with the same wages, having no home and almost dependent on the public, just simply because there is a want of economy in the management of their household affairs. There is a waste in food, there is a waste in clothing and our children, the children of those Americans; grow up without any knowledge of cooking, without any knowledge of household economy, and mothers have no time to teach it to them; they are poor; they are distressed; all their powers are taxed to get a livelihood and they just rush in through the house and stove any thing that they can get in order to dispose of their imme-

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diate wants; their children have no instruction at all in household economies, cooking or sewing or anything of the kind. Now, I say it is possible in our public schools to obviate this trouble and have our children taught in a way that they can save to a household, say five cents a day on every member of that household and furnish better food than they do now. I say that thing is possible without saying anything in regard to the education of the boys. Now, this is incidentally connected with this subject, but it is a matter that every medical man can discuss in his community with the board of directors, and the time is coming, I apprehend, when this matter will be taught in our public schools. We are not quite up to it yet, but the medical profession should take up this and carry it on and discuss it in every province, in every district, and inaugurate the matter of domestic economy. They have taken the initiatory in all such movements and that is one of the solutions of this labor question. The laboring people, the wage earners, must live on a certain amount of wages, and even those wages may be reduced, and in order to live at all and not become public burdens, they must be taught these household economies and it must be taught among the girls of our rising generation. They must be educated to it. It has always been our notion that boys must be educated or taught trades, or some kind of business that they can make provision for a household. But more than that is necessary. The women must be educated so as to save what is earned in this way, especially among the wage earners. And I believe the thing is practicable, and I believe it is a question that is proper to be discussed by medical men in their societies and at home among their own people.

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REPORT ON DISEASES OF THE MIND AND NERVOUS SYSTEM.

By I. P. Brubaker, Des Moines.

There is an abundance of new and interesting material, both from observation and experiments, in the literature of the past year from which to note the advance in diseases of the mind and nervous system.

Progress has not been so much in the direction of absolute new discoveries, but new facts have been recorded, which not only strengthen and confirm previous doctrine and knowledge, but materially assist in making more positive and earlier diagnoses. There is nothing more interesting than the study of cerebral and spinal localization, but it would require the time for this report to mention that which is new in cerebral physiology, pathology and brain surgery alone, and it is desirable rather to present that which is of practical value in the increasing knowledge which bears upon our clinical problems. This must necessarily, therefore, be a fragmentary paper.

It is more apparent from year to year that the cures in those forms of curable diseases of the nervous system depend upon early diagnosis for treatment and surgical operation for existing lesions. It has been a matter of doubt and uncertainty to say that under such and such a region of the skull, in the living subject with uncut scalp, lies an area of brain substance which presides over certain portions of the body, and if affected, will produce certain symptoms; but certain of these brain "centers" are now so thoroughly established and located, both by clinical observations and post mortem proofs, that they have become the solid facts upon which we make our daily localization diagnoses.

For practical purposes, not only the surgeon, but all practitioners, ought to possess sufficient knowledge of localization to be able to trace out the fissures of Rolando and Sylvius, about which are the most important areas associated with the movements of the extremities of the opposite side of the body and the mouth and tongue.

In the study of cranio-cerebral topography there are some new methods. To find the top of the Rolandic fissure, Thane halves the distance from the glabella or root of the nose, to the occipital protuberance, or inion, and having thus defined the middle point of the vertex, takes a point half an inch be-

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hind it as the location of the upper end of the fissure. Having thus obtained the upper end of the fissure, it is desirable to determine its length and direction. The scalp measurement corresponding to its length is three and three quarter inches. It runs from above downward and forward, its axis making an angle of sixty-seven degrees with the middle line.

An ingenious instrument has been designed—Wilson's Cyrtometer—for more definitely locating these fissures. It consists of three strips of flexible metal and a tape for securing it in position. The broadest transverse strip passes coronally round the forehead, corresponding to the glabella and the external angular process; the narrower longitudinal strip passes backward from the glabella in the middle line to the occiput. This strip is marked with two scales of letters—capitals in its posterior fourth and small letters about the middle of the strip. Measured from the glabella backwards the distance to any given small letter is 55.7 per cent of the distance from the glabella to the corresponding capital letter. Thus, when any capital letter falls directly over the occiput, the corresponding small letter will coincide with the top of the fissure. A third narrow reversible strip slides on the longitudinal strip, making an angle of 67 degrees, opening forwards and marked at three and three-quarter inches from its attached end, giving the length and direction of the fissure on the surface of the head.

To determine the exact location and direction of the fissure a line is drawn from the external angular process of the bone backward to the occipital protuberance, taking the shortest route between these two points. Such a line droops a little toward the external auditory meatus, avoiding the greater convexity of the skull. It passes about half an inch above the meatus and corresponds to the floor of the middle fossa, and behind parallel to and nearly in the same course with the attachment of the tentorium and the posterior half of the lateral sinus. A measurement of one and one-eighth inches along this line backward from the external angular process marks the lower end of the fissure of Sylvius. From this point a straight line drawn to the center of the parietal eminence marks accurately the course of the posterior limb of the fissure. The main line of the fissure follows the line of the squamo-parietal suture to its highest point, whence it continues its course to the parietal eminence.

In the determination of other sulci and gyri, other sutures and prominences are relied upon as landmarks. It is to be re-

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gretted that time does not permit a recital of a number of interesting cases reported in the literature of the past year in proof of the exactness being attained in localization knowledge.

Cerebral Syphilis—Hughlings Jackson, in one of his lectures, says that "no single nervous symptom is characteristic of syphilis," which is very near the truth, yet the fact remains that syphilitic nervous affections are underestimated. In his review of this subject Sequin remarks: "How slowly the knowledge of the need of energetic and even heroic treatment of nervous syphilis is spreading."

In an interesting paper Naunyn says, "that in cases of syphilitic tabes, dementia paralytica and polyneuritis, the prognosis depends more upon the extent of the lesion present than upon the etiology. Excepting these diseases the prognosis of such affections are favorable, especially if an early diagnosis be made, and if not more than ten years have elapsed between infection and the occurence of the symptoms treated. In his own experience, out of eighty-eight cases, twenty-four were cured, forty-nine improved, ten unimproved and five died. Under energetic treatment improvement should appear before the expiration of two weeks if a favorable prognosis is to be given."

Seguin remarks on this, "that by energetic treatment the author means inunctions of unguentum hydrargyri, from one to two and one-half drachms a day, and iodide of potassium, fifteen to forty-six grains a day for from eight to ten weeks." He further says that "if our continental confreres would only try the American method of giving iodide of potassium in nervous syphilis, i. e. in doses of one-half to two and one-half drachms three times a day, they would soon obtain better results. If recognized in time very few cases of nervous syphilis, excepting of course dementia paralytica, and tubes (which few believe to be truly syphilitic) fail to get well, or to be greatly improved. The after cure is most important and it is my practice to give mercury or iodide of potassium, during alternating periods of one or two months (in full doses) for at least two years after the last active manifestation of the disease." I can only add to this that in my own experience the ability of the patient to bear such large doses of the iodide of potassium is a diagnostic point in their necessity for benefit.

EPILEPSY.—In pathology there is nothing new, especially worthy of note; in operative treatment there is much which cannot be presented without reports of the cases. A new remedy

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for epilepsy is tincture of simulo, the fruit of copparis carioscea, in doses of from one-half to two teaspoonfuls three times a day. This seems to have a controlling influence on the disease but is not curative. Antipyrin in doses of from 40 to 60 grains per day has been tried, but without satisfactory results. Hyperosmic acid, nitrite of amyl, inhalations of oxygen, percussion of the spine and galvanization of the cranium have all been tried with little effect. It is, however, well established that the mixed bromides are more effectual than any single bromide.

During the past year the suspension treatment of locomotor ataxia has received the most marked attention. To what extent it has been successful or likely to prove curative, it is impossible at the present time to say. It is an old method revised and brought prominently before the medical world, and it is possible that like most new remedies or methods receives more credit for good than it deserves. Charcot suggests that it may act by modifying the circulation of the cord, or by stretching the nerves leaving it. It certainly cannot remove the results of chronic inflammation of the nervous centers of the cord. I am inclined to believe that it relieves the sufferings of the ataxic, only as far as a psychical factor may influence the symptomatic improvements. If it acts as further claimed by stretching of the intervertebral cartilages, removing lymph and the products of nerve-waste from the cord, and by promoting a freer circulation of the blood, I see no reason why the same or better results might not be obtained by placing the patient in the horizonal position, on a hard bed, with the proper apparatus for traction. This position could be maintained for a longer time, with less fatigue and less danger to the patient. In the treatment by this method, the sleeping powers, the general health, the bladder disturbances, the sexual symptoms, the lightening pains and the power of walking were all improved, but there was no improvement in the ataxia. Altogether the method has not proved as satisfactory as was at first supposed.

Another method exciting much discussion and creating marked attention is Hypnotism. This is primarily a French method and there are two schools or methods; that of Paris under the direction of Charcot and that of Nancy under Bernheim. Charcot's three stages are: Lethargy, caused by fixing a bright light on the eyes, or compressing the eye-balls; catalepsy, produced by lifting the eyelids during lethargy; and somnambulism, produced by gently rubbing the vertex in

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either of the foregoing states. The Nancy school claims that Charcot's method is not the correct one, but that the so-called method of "suggestion" is the one which should be pursued. They suggest sleep by comfortable position; by closing the eyes and talking about sleep to the patient, in a quiet manner. They maintain that there are nine degrees of hypnotism, varying from a mere feeling of local warmth and decrease of pain up to a condition of complete somnambulism.

M. Bernheim explains the Nancy theory of all hypnotism as being merely suggestion. He says that "hypnotism is not mere sleep but a peculiar physical state, the sleep indicating a profound condition of hypnotism only." He thinks that Braid's method of fixation by means of a brilliant object, is not so good as Faria's method by "verbal suggestion." What he calls "suggestive psycho-therapeutics" has for its object the cure of the patient, by causing his brain, whether hypnotized or not, to be possessed of the persuasion of cure or the cessation of his symptoms; and further says, that the different methods of hydro-therapeutics, of electro-therapeutics, and even the suspension method of locomotor ataxia, acts in like manner. Cases of insomnia, chronic diarrhœa, nocturnal enuresis, functional dysmenorrhœa, torticollis, uterine pain, Scrivener's palsy and dipsomnia, have all been cured by this method.

As a definition of Hypnotism the Royal Academy of Belgium presents the following: "Hypnotism consists in a dynamic modification of the nervous system, particularly the brain, ordinarily provoked by external impressions or special manœuvers. It is a sort of experimental neurosis, in which the will is extinguished, or in abeyance, consciousness is diminished or abolished, the senses are exalted or depressed, and muscular action is perverted. It is a condition 'secondary' in which the personality is transformed and becomes docile under the direction of the person who provokes the hypnotic state. It is a sort of induced sleep in which the subject becomes an automaton, without reason, will or memory. It is a species of disassociation of the diverse faculties; a rupture of the normal equilibrium, characterized by a weakening of the higher faculties of the brain, which permit the lower or automatic to predominate."

This definition, and in fact the whole method, is almost as obscure as is a definition for and the subject of Christian science; and yet we cannot condemn it, but must withhold a final

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judgment, for it is a field of investigation. When our psychological knowledge is equal to our physiological investigation, perhaps we can study these phenomena with greater safety to our medical reputation.

Chorea.—The following conclusions are the most important of that which is new on the subject of Chorea. They are the deductions of Koch, after a study of 267 cases; 100 males, and 167 females: (1st.) "Chorea is not to be regarded as a neurosis, for many facts suggest that it is an infectious disease. (2nd.) The choreic virus attacks especially the cortico-muscular (pyramidal) tracts. (3rd.) The choreic virus is so closely related to that of articular rheumatism, that either form of disease can be formed by it. Endocarditis is also closely related to chorea, and if in any case, it precedes an attack of chorea, the endocarditus may in that case be considered as due to the choreic virus."

Arsenic, in large doses, the old standard remedy, in this disease, is superceded by antipyrin. Abjos injects subcutaneously a 50 per cent. solution. He commences with seven and one-half minims and doubles this daily until sixty minims are given. The disease is said to be cured rapidly. Prof. H. C. Wood says: "antipyrin is a more successful remedy in chorea than arsenic. With arsenic the average duration of the treatment is sixty to ninety days; with antipyrin he has completely stopped the convulsive movements in one week." Other authors state that fifteen grains three times a day is a most effective remedy.

In Sciatica the external application of sulphur is highly recommended. This treatment consists in enveloping the leg in flowers of sulphur during the night. In my own experience for this treatment to be successful the leg must sweat, during the application of the sulphur, otherwise it accomplishes no good result. In the majority of patients with this disease, the skin is dry, and to produce perspiration I give ten to fifteen grains of antipyrin, or one-eighth grain muriate of pilocarpine, hypodermically. By this method it has been successful in a number of cases for me. In the observation of McKinn, the hypodermatic injection of antipyrin has been successful. He injects from fifteen to twenty-five grains at a time, but only five grains in any one place. Dissolved in a little more than its own weight of water, no abscess and but very little indurations have at any time occurred.

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Neuralgia and Headaches—Dana uses menthol in five to twenty grains internally for various neuralgias and headaches. He says it is a heart stimulant and raises the blood pressure and considers it better than antipyrin, in weakly and anæmic subjects, as it causes no collapse. It is best given in a twenty-five per cent alcoholic solution, diluted, when taken, with hot water. He has also experimented with saffrol—the camphor of the oil of sassafras—and finds that in doses of twenty drops it is of value in neuralgia, sciatica and headache. There is much testimony in favor of the virtue of antipyrin in migraine. In doses of four to five grains, repeated once or twice after an interval of half an hour, it certainly is very satisfactory. Haigh claims that certain cases of migraine are closely connected in time with a large excretion of uric acid, and to diminish this and relieve the attack, he administers 20 to 30 drops of nitro-muriatic acid, in half a tumbler of water, repeated once or twice at an interval of half an hour. In my own experience by far the most efficient and safest remedy in neuralgic pain is phenacetin. It has a powerful analgesic action; calms the excitability of the nervous system, and in nervous insomnia causes sleep, better than the bromides. It causes no rash, stomach pain, or cyanosis, and is non-toxic. Altogether it is one of our most efficient and useful remedies.

Infantile Convulsions.—In convulsions occurring in young children not dependent on any organic lesion of the nervous system, but arising during dentition, from falls on the head, meningitis and acute tuberculosis, H. V. Kaggs in the Archives of Pediatrics, 1889, advocates the use of sulphide of calcium. He says that it cannot take the place of chloral or bromide in the slighter neurotic affections, but in the severer forms it not only controls the convulsive movements, but is curative in its action. The dose is small, under six months a grain, in a half a pint of water and a teaspoonful hourly.

An old remedy—of value—with a new application is a subcutaneous injection of from one-sixtieth to one-forty-eighth of a grain of morphia.

Hypnotics.—During the past year sulphonal and hyoscine have received much notice as hypnotics and several new ones—chloral formamide (chloralamide) and somnal have been added to the list. There is a general agreement of opinion in favor of sulphonal as a hypnotic. It is not an analgesic, but is said to act on the cortex cerebri; it has no influence on the circulation, respiration, or temperature, and is useful therefore

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in cardiac and pulmonary affections and also in children. The dose ranges from 15 to 45 grains, and should not exceed the latter daily. In my own experience I have found it useful in cases of nervous insomnia and insomnia from overwork, but of no value in cases of insomnia from digestive troubles or anæmia. In fact in the latter class of cases I think it injurious; also in my limited experience with it in mental excitement it is an inferior sedative. Its disadvantages are its slow action, hebetude of mind, the giddiness, faintness and staggering gait on the following day, and nausea, vomiting and rash, if continued for some time.

Hyoscine hydrochlorate is conceded to be the best remedy we have for quieting the high excitement of mania, but is a marked depressant and must be used with caution. The dose is from one-one-hundred-and-sixtieth to one-one-hundredth grain.

A new hypnotic proposed at the investigation of Prof. V. Mering, is chloralamide. It is a combination of chloral anhydride—not chloral hydrate—and formamide. The dose is about 30 grains. The flavor is mild, feebly bitter, and not at all caustic. It is suitable to the same class of cases of insomnia as chloral, but its action is somewhat slower, sleep coming on in from 30 to 50 minutes after its administration. The sleep varies from 6 to 10 hours, and no unpleasant after symptoms are experienced. It is said to be so unirritating that a ten per cent solution causes no irritation when applied under the eyelid of a rabbit. It can be taken in powder or sweetened wine. Compared with chloral it affects the blood pressure very slightly. There is no such drowsiness the next day as after sulfonal. It is possible that chloralamide will prove useful in certain cases and will be a valuable addition to our list of hypnotics.

Somnal is an ethereal chloral-urethan, which is claimed to have all the advantages of chloral without any of its disadvantages, but there is not sufficient information to give further details.

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CARBOLIC ACID—THE MATERIA MEDICA AND INTERNAL THERAPEUTICS.

By O. D. Benson, Des Moines.

Carbolic acid is called phenol, phenic acid or phenyl hydrate, and it is made from coal tar by distillation. When carbolic acid is pure it is solid, crystallizing at ordinary temperature in long rhomboidal needles, and it is colorless; it has a peculiar creasotic odor. The taste is peculiar, like the odor it has an acrid burning taste and sweetish, not unpleasant to most people. Carbolic acid slightly impure is of a reddish cast or when exposed to light or atmosphere it will acquire this reddish cast. It is deliquescent and it liquifies in water without disolving it; when pure it melts at 160° F and boils at 359° F. It is soluble in 20 parts of water and is soluble in alcohol, ether, glycerine, oils, etc. Biddle says it may be recognized by the following tests:

1st. By its peculiar smell.

2d. By the formation of yellow picric acid with nitric acid of 36.°. R.

3d. By the production of a blue or green color when treated with a small quantity of ammonium hydrate and a trace of a solution of a hydrochlorite.

4th. By a lilac color produced on the addition of a small quantity of ferric sulphate.

5th. By a yellowish white precipitate with bromine water, etc.

Antagonists and incompatibles, Bartholow says, combined with alkalies diminishes but does not entirely check the physiological activity of carbolic acid. Saccharate of lime or lime is probably the most efficient antagonist from the chemical point of view. In cases of poisoning this substance should be given freely. The mucous membrane should be protected as far as possible by the administration of vegetable demulcents, but not by oils and glycerine which favor absorption. Atropine should be given to dilate the contracted pupil and to strengthen the circulation and respiration. All the phenols, antiseptics, motor depressants increase the effects of carbolic acid.

The dose is one to two minims well diluted. The physiological effects of carbolic acid is a protoplasmic poison and destroys both animal and vegetable life. When applied to the

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skin in a concentrated form produces local anæsthesia of the parts which extends deeply into the tissues and produces white eschars, becoming reddish or brownish, and after a short time it desquamates. When swallowed the mucus membrane appears as if brushed over with a strong solution of nitrate of silver and it becomes hard and dry like leather; this appearance is observable about the lips, fauces, the œsophagus, the cardiac and pyloric extremities of the stomach and the summits of the folds of the mucus membrane in the organ generally. This change in membrane is due to the power of carbolic acid coagulating the albumen of the tissues. (Bartholow).

Nervous System.—In man a poisonous dose produces vertigo, contracted pupils and stupor and tremors, but does not produce convulsions as in lower animals. The reflex activity is at first increased, then abolished; the muscles and nerves after death are found to be in more or less exhausted condition but not paralyzed.

Circulation.—The heart is at first depressed, afterwards accelerated by stimulation and exhaustion of the vagi. The arterial pressure is reduced on account of the paralysis of the vaso-motor center of the cord. Carbolic acid enters the blood probably as carbolic acid. Though having acid properties it may become a carbolate, alkaline in reaction.

Respiration.—The movements of respiration are increased in frequency, but are very shallow, due to stimulation of the vagi and also of respiratory centers of the medulla.

Temperature.—Is lowered somewhat in cases of poisoning. The surface of the body is cool and more or less livid. The diminution in the blood pressure and the arrested oxidation are the chief causes.

Stomach.—Given in medicinal doses, a cooling, rather grateful sedative effect is experienced in the stomach. The gastric juice may be somewhat increased by the prevention of fermentation and the purification of the mucous membrane which renders the gastric glands in a better condition to secrete the juices. It may be a slight stimulant to the glands of the stomach.

Intestines.—No special action on these organs.

Urine.—When poisoning by carbolic acid the earliest symptom is the dark greenish, blackish or smoky appearance of the urine.

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Eliminated.—Elimination takes place by various channels, but chiefly by kidneys and by the bronchial mucous membranes; also by the saliva; it may be found in perspiration and probably in fæces.

THERAPY.

Therapeutically carbolic acid has been more used externally than internally, and it being one of our best remedies, what little I have to say will be on the internal uses of the drug.

Vomiting.—It has been used in drop doses, combined with bismuth sub-nit. 5 grs. from one to four hours, when the vomiting is due to irritation of the nerves of stomach or from gas in stomach, from undigested food or anything that causes fermentation.

Vomiting of Pregnancy.—Due to an irritation of the nerves of the stomach; given with bismuth and lactopeptine will check this form of sickness and vomiting.

Cholera Morbus.—Where there is nausea and vomiting with great prostration and relaxation of mucous membranes and great muscular relaxation, with pain and cramping in stomach and bowels, carbolic acid in drop doses combined with tr. opii, or morphine hypodermically. The acid quiets the irritation of the nerves and prevents fermentation and is healing to the stomach and purifying to the intestines; it is also an astringent.

Cholera Infantum.—In this trouble the disease is in the whole of the alimentary tract, including the ganglionic nerve centers. Carbolic acid acts by preventing fermentation and quieting the nervous irritation of the stomach; it cleanses the alimentary canal, destroys poison germs and does lower the temperature and by lowering temperature quiets brain trouble.

Asiatic Cholera.—I think it might be used with advantage in this trouble. As it is both astringent and antiseptic, I would prescribe it in one-half drop dose in combination with other drugs as the doctor sees fit to use.

Nasal Catarrh.—In this trouble the spray would be preferable in 1 to 5 per cent solution sprayed to Schneiderian membranes one to eight times a day. Also it may be used in douches of the same strength the same number of times per day.

Hay Asthma.—I use it in this trouble as a spray and sometimes combine it with tr. iodine, either as spray or douche. After the spray or douche 2 to 4 per cent. cocaine solution may be applied to parts.

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Chronic Bronchitis.—May be benefited by inhalations of this drug, the fumes coming in contact with the inflamed mucous membrane and destroying the germs, and it is healing and soothing to the mucous membrane.

Whooping Cough.—May be treated the same way and also a drop in syr. wild cherry two to four times a day. This seems to check the spasm and improve the condition of the mucous membrane.

Pulmonary Phthisis.—May be much benefited by inhalations of carbolic acid where there is fetor and bad smelling matter coming from the parts; it may be combined with expectorants and stimulants or tonics. It is especially good where there is tubercular sore throat or an irritated sore throat from severe coughing.

Gangrene of Lungs.—Carbolic acid may be used as spray and internally to check fetor and destroy the germs that cause the trouble.

Phthisical Cavities.—Carbolic acid may be used the same way and for the same purpose as gangrene of the lung.

Consumption may be treated the same as the last two and for the same purpose.

Typhoid Typhus and Typho Malarial Fevers.—As these are germ diseases and carbolic acid is a germicide, knowing this to be so, I was led to use carbolic acid in these troubles and especially in typhoid fever. I have been much pleased with its use. I have tested it in quite a number of cases and am pleased to say that I have not been disappointed with it. I have used it for the past five years in these troubles.

Typhoid fever is an inflammatory trouble, and an intestinal trouble, the parts affected are the patches of Peyer in the small intestine, the mesenteric glands and the spleen, the salivary glands of the small intestine are also involved; also some of the abdominal muscles are occasionally enlarged.

In treating these troubles I find that carbolic acid does good in many ways. 1st. It reduces temperature slightly, or is claimed to by some authors. I think this is true. In my experience I do not find the high temperature that I find when I do not use the acid. 2nd. It is an antiseptic and in connection with tr. iodine is an absorbent. 3rd. It cuts short the disease from seven to ten days in most cases, or this has been my experience. I also find it especially good where there is much diarrhoea and tympanites. It prevents fermentation and in this way prevents tympanites. To some extent

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it purifies the diseased glands; it is healing to the parts effected by destroying the germs that cause the trouble; it acts as an astringent, has a tendency to check diarrhœa, and prevents to some extent delirium by lowering the body heat.

In these troubles I give the acid in drop doses combined sometimes with tr. iodine and if diarrhœa bismuth or tr. opium or both, as the case calls for. If there is not much diarrhœa or tympanites, I give the acid combined with tr. iodine every 4 hours. I usually begin with the fever and continue through the trouble. I also use other remedies as stimulants, baths, tonics, febrifuges, etc., besides the acid treatment.

Carbolic acid I find of great benefit in diseases of the stomach. I have used it in many diseases of this organ, and can safely say that it is one of the best medicines for many diseases of the stomach that we have in the materia medica. The first of these is—

Acute Gastritis.—This is an inflammation of the mucous membrane; it may be general or localized; the mucous membrane is engorged and discharges a viscid, glary mucus. There is also nausea and vomiting, with vertigo, dizziness, etc. Carbolic acid given in this trouble quiets to some extent the inflammation, is grateful to stomach, and is cooling and quieting; destroys the great number of microbes; is healing and cleansing; it prevents fermentation and gas, and has a tendency to quiet nausea and vomiting, and it lessens the tendency of the dizziness and vertigo. It may be given with bismuth, pepsin, tonics, or if stomach is to be washed out, it may enter the solution to be used.

Toxic Gastritis.—Brought on by toxic poisons. May be treated same as acute, with the carbolic acid and other drugs as the doctor sees fit to use.

Phlegmonous gastritis, where there are abscesses or ulcers, may be treated with great benefit with carbolic acid, as carbolic acid is one of the best remedies for ulcer or abscess of stomach.

Chronic Gastritis or Chronic Catarrh—Where there is chronic and slow and probably inflammation of a part or patches of the mucus membrane of the stomach. In this trouble we have great annoyance from gases and a constant uneasiness from pain. After taking food he experiences a weight of fullness, and pain, nausea and vomiting may be present and various troubles may arise from this trouble.

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In this trouble carbolic acid is especially good. I give it in one and two drop doses combined with other drugs. Carbolic acid is an antiseptic and this trouble calls for this treatment in all the cases of this kind. I expect to gain much from this treatment.

Atonic Dyspepsia.—This is a trouble mostly of old age and of functional derangement of stomach of an irritated or inflamed condition, and *gastritis* caused from strong drink where we find an inflamed condition of stomach. In these two troubles carbolic acid will do good in toning up the condition of the stomach, and heals and quiets these forms of inflammation. We may give it in combination with tonics, and stimulants, etc.

Ulceration and Carcinoma—Cancer of Stomach.—Of all the many troubles of the stomach the last two are the worst and here is where carbolic acid will be of most service. Carbolic acid will act on these ulcers as they would on ulcers of the skin. We know that carbolic acid enters largely into the treatment of such troubles. I was led to think this and have tried it in ulcer of the stomach. It may be taken internally or it may be used to wash out the stomach by its being an antiseptic and a healing remedy. It may enter largely into the treatment of these troubles. I think I have derived much benefit from the use of this drug in all forms of stomach troubles. I am going to investigate it further and will say more another time.

Malarial Fevers may also be benefited by the use of this drug, especially where quinine does not seem to have the desired effect. Even when it does we may resort to this drug in connection with quinine. Like typhoid fever, malaria is a poison germ in the blood and carbolic acid is a germicide. It may be given to counteract this poison and to destroy this germ in the system. It may also be used to reduce temperature, as it has a tendency this way where there is fever. But in this trouble I have not used it enough to say much about it, but think it may be used with advantage. Thus it appears that this drug is very valuable in zymotic, febrile, and other diseases wherever the use of an antiseptic is needed.

DISCUSSION.

Dr. McClure.—Mr. President: I have no time to discuss the merits of this paper. There are several others to be presented and I desire simply to say a word on the use of car-

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bolic acid internally. I believe that I have obtained more satisfactory results from carbolic acid in the treatment of stomach troubles, fermentation changes have a tendency to the formation of putrefaction or decay, decomposition of the tissues. I believe I have obtained better results from the use of carbolic acid than almost anything else. Also in typhoid fever in those cases where there is a large amount of exudation from the mouth and carried into the stomach and the poisoning from swallowing the excretion. My favorite prescription—and I guess we all have some favorite prescription—is peppermint water and carbolic acid. It is an excellent remedy and one for which I would claim more satisfactory results than any medicine I have ever used for those digestive troubles, and particularly in that trouble of the stomach that occurs in the course of typhoid fever. It is a very simple one, but I am satisfied if any one will try it in any of those little ailments of the stomach, fermentation and changes in the process of digestion they will be satisfied with the results. Of course, other things can be added, such as nux vomica, bismuth and so on, but the main thing is carbolic acid and peppermint water. I don't propose to discuss this matter, but I wanted to state a few examples in which I have obtained very excellent results.

Dr. Finlayson—Mr. President: We generally have been accustomed to use carbolic acid with very little attention to its internal use. I think now we find it quite as valuable employed internally as we formerly believed it to be in its external use. In the vomiting of almost any character, either from stomach troubles or pregnancy, in enteric troubles where there is a condition of ulceration, I believe there is nothing that will take the place of carbolic acid, and if allied as it may be with bismuth, pepsin, ingluvin, lacto-pepsin and peppermint water we can nearly always get the improved results, and as a general thing I believe we get most excellent results. Also in typhus; where we have an odor indicating decomposition going on in the pulmonary tract, the employment of carbolic acid in inhalation gives us results really very satisfactory, that not

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alone relieves the distress of the patient in the manufacture of gas and decomposing material, but relieves him in other ways and makes him feel stronger. I had a case not long ago where, by introducing the inhalation of carbolized lime water, the odor entirely disappeared and the patient improved and felt in many respects that he was better than he had been for a long time in the past, which continued as permanent improvement, so far as the odor could be considered, as long as he survived. In the treatment of the nasal, pharyngeal, and early laryngeal inflammation it has for years been employed in our larger cities with success. As a disinfectant it is successfully employed wherever we may use it, and in the formation of gas in the stomach or in the entire alimentary tract which is usually, perhaps always, the result of decomposing materials in that tract, whether it be from ulcers or whether it be from indigestion. The employment of carbolic acid will purify and remove the conditions existing there which are the production of gases that we desire to get rid of.

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In Memoriam.

DR. DAVID T. DENSMORE.

By N. W. Knepper, Reported by C. O. Jones, M. D.

Dr. David T. Densmore died at Jamaica, Iowa, on the 28th of August, 1888. He was but 28 years of age. His remains were brought to Collins for interment.

Dr. Densmore was a prominent young man of noble character and great ability. When quite young he turned his attention to educating himself and preparing the better for life's journey. In the summer of 1879 he entered the office of Dr. Knepper and commenced the study of medicine. He continued his studies for three years, after which he attended two full courses of lectures at State University at Iowa City, after which time he located at Jamaica, Iowa, and commenced the practice of medicine, being crowned with success in his noble profession. After two years practice he went to Chicago and attended the College of Physicians and Surgeons from which he graduated in 1886. In the summer of 1883 he married Miss Laura Kester, of Guthrie county, who now survives him. The doctor had a fine practice and had succeeded in accumulating some property from which he was just commencing to reap its comforts.

CHARLES HENRY LATHROP.

By F. P. Batchelder, M. D.

Charles Henry Lathrop, M. D., was born at Taunton, Mass., September 3rd, 1831. He was educated at Brown University, Providence, R. I., and graduated at the Medical Department University of New York in June, 1858. He then located in Lyons, Clinton county, Ia. When the war broke

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out he went out as Assistant Surgeon and afterwards attained the rank of Surgeon in the First Iowa Cavalry. On being mustered out in 1866 he returned to Lyons and took a front rank in his profession in this part of the state.

In 1870 the first symptoms of locomotor ataxia made their appearance in him and in the fall of 1872 he completely lost the use of his lower extremities. From that time till the day of his death he was confined to a chair and was a great but patient sufferer from that disease. Although unable to continue in active practice, he still retained his interest in everything pertaining to his profession and continued to do a good office practice up to the last few weeks before his death. He was one of the oldest members of the Iowa State Medical Society and also of the American Medical Association. He was an active member of the Clinton county Medical Society, and felt the deepest interest in its success, and had filled every office in the society. He was the author of the Medical and Surgical Directory of Iowa, a work which was far more correct than such works usually are. At the time of his death he had just completed a history of his regiment in the war. His affection for the members of his regiment showed itself on every occasion.

He died at his home in Lyons, on February 6th, 1890, leaving behind him the wife who had so devotedly attended him during the many years of his helplessness. He was buried with military honors, at his request. Dr. Lothrop was a true friend to all young physicians who showed themselves worthy of his friendship and was ever ready by wise council or caution to steer them through the breakers which beset them on first starting out.

HIRAM THOMAS CLEAVER, M. D.

By J. A. Scroggs, M. D.

Hiram Thomas Cleaver was born February 17, 1822, in the village of Centerville, Washington county, Pa.. His parents were consistent members of the Society of Friends, and

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could trace their lineage through an ancestry extending back to 1718, at which time a remote projenitor came to America from the north of England.

Dr. Cleaver's literary education was received at a seminary in New Lisbon, Ohio, where he spent five years, and from which he graduated in 1841. His instructor in Latin and Greek was Clement C. Vallandingham, who afterward became somewhat notorious in the political history of our country. He studied medicine and surgery under the direction of Dr. T. Green, also of New Lisbon, and with whom he was associated as a partner in the practice for several years. His medical degrees were received from the College of Physicians and Surgeons, of Keokuk, Iowa, and the Chicago Medical College.

In the year 1848 he came to Iowa and located at Wapello, in Louisa county, where he was engaged in the active duties of his profession for fourteen years. While residing in Wapello, he represented his district in the Senate of Iowa during the period from 1854 to 1858.

In 1862 he entered the medical service of the United States and was placed in charge of the Estes House Hospital in Keokuk, and remained in that position until the hospital was closed after the termination of the war of the rebellion.

In 1862 Dr. Cleaver was also elected Professor of obstetrics and diseases of women in the College of Physicians and Surgeons of Keokuk, Iowa, which chair he held until 1882, when he resigned on account of failing health. During his connection with the college he filled the position of vice president for a number of years, and the last year, that of dean of the faculty.

He was one of the early members of the Iowa State Medical Society, serving as vice president in 1861, and as president in 1874.

He was also a member of the American Medical Association, and was one of its delegates in attendance upon the meeting of the Medical Association of Great Britian, at Bath,

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England, in 1878, at which time he also made a tour of Continental Europe, visiting the hospitals of its great cities. Dr. Cleaver took great interest in local medical affairs, and was one of the founders of the Louisa County Medical Society, and at various times filled all the offices in its gift. Of this society and his connection therewith, he entertained feelings of pride, and was wont to relate incidents of his association with its members in the pioneer days of medical practice in the state of Iowa in the Louisa County Medical Society. He was associated with the late Drs. Robertson, J. M. and W. S., both afterwards honored members of this society, and with whom a friendship was formed, lasting throughout their lives. He was also a member of the Keokuk Medical Society, and during his connection with it served four terms as its president.

In 1887, he went to Las Vegas Hot Springs, New Mexico, in the hope of improving his health, and while there was appointed Surgeon and Assistant Manager in the medical service of the Atchison, Topeka, and Santa Fe Railroad—a position he held until his death, which occurred on the 11th of January, 1888, from exhaustion following an operation for the removal of vesical calculus.

In the various positions occupied by Dr. Cleaver, he invariably won the esteem of his colleagues. In the community in which he lived none respected him more than his competitors in the practice of medicine, and no young practitioner ever came to him for advice or encouragement in vain. As a lecturer he made no pretentions to oratory, but was plain, earnest, and incisive, always receiving the closest attention of the students. Dr. Cleaver was a conscientious practitioner, careful and conservative; of a kindly and sympathetic nature, he invariably won the confidence of his patients, and many insist his visits and encouraging words were as a tonic to their drooping spirits.

Scrupulously honest in the every day affairs of life, devoted to his family, faithful to his profession, loyal to his friends, Hiram T. Cleaver passes to his reward, leaving a name worthy of emulation.

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In Memoriam.

Complete List of all Deceased Members of the Society, so far as they have been Reported to the Secretary.

L. J. ALLEMAN.
R. D. BARTON.
S. N. BIXBY.
JAMES H. BOUCHER.
J. B. BUCHTEL.
L. L. BUTLER.
*H. T. CLEAVER.
JOHN CLEVES.
M. COUSINS.
H. N. CURTIS.
A. J. CRAWFORD.
CHARLES W. DAVIS.
DAVID T. DENSMORE.
*J. D. ELBERT.
R. J. FARQUHARSON.
JOHN W. FINLEY.
L. P. FITCH.
E. J. FOUNTAIN.
E. C. FRANCIS.
D. W. GRAY.
J. F. GRIMES.
J. W. GUSTINE.
ROBERT S. C. GWYNN.
B. A. GUYTON.
G. R. HENRY.
*J. F. HENRY.
CHRISTIAN HERSCHE.
JOHN G. HOUSE.
GEORGE F. HUBBARD.
SANFORD W. HUFF.
J. Z. HUEY.
*JOHN C. HUGHES.
*H. C. HUNTSMAN.
DELIA S. IRISH.
O. S. KNOX.
CHARLES HENRY LATHROP.
*R. S. LEWIS.
A. S. MAXWELL.
W. H. NICHOLS.
HENRY OSBORNE.
W. W. PARKER.
F. G. POLLOCK.
R. W. PRICE.
SAMUEL RAMAGE.
MARK RANNEY.
CHARLES H. RAWSON.
*GEORGE REEDER.
B. H. REYNOLDS.
*W. S. ROBERTSON.
J. ROBINSON.
J. F. SANFORD.
WILLIAM H. SMITH.
J. E. STANSBERRY.
J. D. STARKS.
GEORGE W. STEWART.
*S. B. THRALL.
NATHAN H. TULLOSS.
WILLIAM VOGT.
*J. M. WITHERWAX.
AMOS WITTER.
EDWARD WHINNERY.
J. A. WRIGHT.
R. H. WYMAN.

[Those marked * were Presidents of the Society.]

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OFFICIAL REGISTER.

[FROM DATE OF ORGANIZATION.]

1850.

Enos Lowe, President; D. L. McGugin and J. D. Elbert, Vice-Presidents; H. M. Matthews, Recording Secretary; J. F. Sanford, Corresponding Secretary; G. R. Henry, Treasurer; J. F. Dillon, Librarian.

1851.

D. L. McGugin, President; J. F. Henry, First Vice-President; J. M. Witherwax, Second Vice-President; E. D. Ransom, Recording Secretary; J. F. Sanford, Corresponding Secretary; S. Ramage, Treasurer; J. H. Rauch, Librarian.

1852.

J. D. Elbert, President; J. F. Henry, First Vice-President; J. M. Witherwax, Second Vice-President; S. L. Craig, Recording Secretary; J. F. Sanford, Corresponding Secretary; J. C. Wear, Treasurer; M. Cousins, Librarian.

1853.

J. M. Witherwax, President; Thomas Siveter, First Vice-President; George Reeder, Second Vice-President; J. H. Rauch, Recording Secretary; D. L. McGugin, Corresponding Secretary; G. R. Henry, Treasurer; Asa Morgan Librarian.

1854.

George Reeder, President; J. M. Robertson, First Vice-President; D. L. McGugin, Second Vice-President; J. Howes, Recording Secretary; C. L. Chambers, Corresponding Secretary; J. H. Rauch, Librarian.

1855.

Thomas Siveter, President; J. H. Rauch, First Vice-President; W. L. Craig, Second Vice-President; W. Bird, Recording Secretary; D. Atkinson, Corresponding Secretary; J. J. Page, Treasurer.

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1856.

J. C. Hughes, President; A. D. Wood, Vice-President; M. Cousins, Recording Secretary; D. L. McGugin, Corespond-ing Secretary; T. Siveter, Treasurer; H. Carpenter, Librarian.

1857.

Thomas Siveter, President; M. B. Cochran, Vice-President; J. C. Stone, Recording Secretary; T. J. Saunders, Corresponding Secretary; James Gamble, Treasurer; H. Carpenter, Librarian.

1858.

J. H. Rauch, President; E. S. Barrows, Vice-President; J. W. H. Baker, Recording Secretary; W. Bird, Corresponding Secretary; M. B. Cochran, Treasurer.

1859.

E. S. Barrows, President; George Reeder, Vice-President; Allen Phillips, Recording Secretary, Oliver George, Corresponding Secretary; M. B. Cochran, Treasurer.

1860.

R. S. Lewis, President; J. C. Hughes, Vice-President; J. M. Alder, Corresponding Secretary; C. W. Belden, Treasurer.

1861.

J. F. Henry, President; H. T. Cleaver, Vice-President; J. H. Boucher, Recording Secretary; R. J. Patterson, Corresponding Secretary; P. McLaren, Treasurer.

There was no meeting of the Society in 1862 and 1863.

1864.

M. B. Cochran, President; J. W. H. Baker, Vice-President; S. B. Thrall, Recording Secretary; R. J. Patterson, Corresponding Secretary; P. McLaren, Treasurer.

1865.

J. C. Hughes, President; J. Williamson, Vice-President; J. W. H. Baker, Recording Secretary; W. F. Peck, Corresponding Secretary; William Watson, Treasurer.

1866.

J. W. H. Baker, President; J. C. Lay, Vice-President; W. F. Peck, Recording Secretary; A. M. Carpenter, Corresponding Secretary; M. B. Cochran, Treasurer.

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1867.

William Watson, President; E. Whinnery, Vice-President; A. G. Field, Recording Secretary; E. J. B. Statler, Corresponding Secretary; M. B. Cochran, Treasurer.

1868.

Philip Harvey, President; J. W. H. Baker, Vice-President; A. G. Field, Recording Secretary; J. Williamson, Corresponding Secretary; M. B. Cochran, Treasurer.

1869.

S. B. Thrall, President; N. Steele, Vice-President; A. G. Field, Recording Secretary; E. H. Hazen, Corresponding Secretary; H. L. Whitman, Treasurer.

1870.

James Gamble, President; N. Steele, Vice-President; George P. Hanawalt, Recording Secretary; J. Williamson, Corresponding Secretary; J. M. Robertson, Treasurer.

1871.

A. G. Field, President; J. M. Robertson, Vice-President; George P. Hanawalt, Recording Secretary; J. F. Ely, Corresponding Secretary; J. W. Gustine, Treasurer.

1872.

The Constitution and By-Laws adopted this year provides for the election of *two* Vice-Presidents, and a Secretary and Assistant Secretary instead of "Recording" and "Corresponding" Secretary.

The following is a continuation of the Official Register:

J. Williamson, President; A. M. Carpenter, First Vice-President; J. W. Smith, Second Vice-President; J. W. Gustine, Treasurer; George P. Hanawalt, Secretary; J. D. McCleary, Assistant Secretary.

1873.

W. S. Robertson, President; William Cornes, First Vice-President; John Bower, Second Vice-President; J. W. Gustine, Treasurer; S. B. Thrall, Secretary; J. F. Kennedy, Assistant Secretary.

1874.

H. T. Cleaver, President; J. G. House, First Vice-President; T. J. Caldwell, Second Vice-President; J. W. Gustine, Treasurer; S. B. Thrall, Secretary; J. F. Kennedy, Assistant Secretary.

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1875.

W. F. Peck, President; H. Ristine, First Vice-President; H. Osborne, Second Vice-President; J. W. Gustine, Treasurer; S. B. Thrall, Secretary; J. F. Kennedy, Assistant Secretary.

1876.

H. C. Bulis, President; H. Ristine, First Vice-President; S. B. Chase, Second Vice-President; J. W. Gustine, Treasurer; S. B. Thrall, Secretary; J. F. Kennedy, Assistant Secretary.

1877.

H. Ristine, President; J. W. Gustine, First Vice-President; L. P. Fitch, Second Vice-President; J. F. Kennedy, Secretary; G. O. Morgridge, Assistant Secretary; G. R. Skinner, Treasurer.

1878.

A. M. Carpenter, President; D. W. Crouse, First Vice-President; G. W. Carter, Second Vice-President; J. F. Kennedy, Secretary; W. W. Grant, Assistant Secretary; G. R. Skinner, Treasurer.

1879.

G. P. Hanawalt, President; A. W. McClure, First Vice-President; D. Scofield, Second Vice-President; J. F. Kennedy, Secretary; George W. Tibbits, Assistant Secretary; G. R. Skinner, Treasurer.

1880.

S. B. Chase, President; T. J. Caldwell, First Vice-President; L. J. Alleman, Second Vice-President; J. F. Kennedy, Secretary; M. H. Waples, Assistant Secretary; G. R. Skinner, Treasurer.

1881.

T. J. Caldwell, President; D. Scofield, First Vice-President; M. H. Waples, Second Vice-President; J. F. Kennedy, Secretary; L. C. Swift, Assistant Secretary; G. R. Skinner, Treasurer.

1882.

D. Scofield, President; S. E. Robinson, First Vice-President; H. L. Getz, Second Vice-President; J. F. Kennedy, Secretary; D. Macrae, Assistant Secretary; G. R. Skinner, Treasurer.

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1883.

S. E. Robinson, President; H. C. Huntsman, First Vice-President; D. W. Crouse, Second Vice-President; A. A. Deering, Secretary; A. C. Simonton, Assistant Secretary; G. R. Skinner, Treasurer.

1884.

H. C. Huntsman, President; H. B. Ransom, First Vice-President; C. C. Griffin, Second Vice- President; J. F. Kennedy, Secretary; G. E. Crawford, Assistant Secretary; G. R. Skinner, Treasurer.

1885.

D. W. Crouse, President; A. W. McClure, First Vice-President; A. L. Wright, Second Vice-President; J. F. Kennedy, Secretary; L. C. Swift, Assistant Secretary; G. R. Skinner, Treasurer.

1886.

A. W. McClure, President; J. C. Hinsey, First Vice-President; D. S. Fairchild, Second Vice-President; S. S. Lytle, Secretary; John P. Savage, Assistant Secretary; G. R. Skinner, Treasurer.

1887.

J. C. Hinsey, President; Donald Macrea, First Vice-President; J. C. Shrader, Second Vice-President; S. S. Lytle, Secretary; A. J. Crawford, Assistant Secretary; G. R. Skinner, Treasurer.

1888.

Donald Macrae, President; Benj. McCluer, First Vice-President; J. D. McCleary, Second Vice-President: S. S. Lytle, Secretary; C. F. Darnall, Assistant Secretary; G. R. Skinner, Treasurer.

1889.

J. M. Emmert, President; Geo. F. Jenkins, First Vice-President; E. F. Clapp, Second Vice-President; C. F. Darnall, Secretary; J. W. Cokenower, Assistant Secretary; G. R. Skinner, Treasurer.

1890.

Wm. D. Middleton, President; J. D. McCleary, First Vice-President; J. L. Whitley, Second Vice-President; C. F. Darnall, Secretary; C. S. Chase, Assistant Secretary; G. R. Skinner, Treasurer.

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Permanent Members.

[Members are requested to notify the Secretary of any errors in the following list, or of changes by removal or death.]

JOINED.	NAME.	POST-OFFICE.	WHERE GRADUATED.	DATE.
1887	Adair, L. J.	Anamosa	Rush Medical College	1869
1859	Ady, A	Muscatine	Starling Medical College	1851
1886	Anderson, A. A.	Des Moines	Rush Medical College	1882
1884	Applegate, A. J	Indianola	Coll. Phys. and S., Keokuk	1864
1882	Archer, W. H	Bear Grove	Medical Dept. S. U. I	1873
1889	Armentrout, J. C.	Keokuk	Iowa State University	1883
1885	Auld, J. M	Keota	Coll. Phys. and S., Keokuk	1880
1885	Avery, Milo	Aurelia	Rush Medical College	1884
1890	Adams, J. W	Des Moines	Rush Medical College	1881
1890	Allen, C. W	Story City	University of Vermont	1882
1878	Baker, E. L	Indianola	Louisville Medical College	1873
1885	Batchelder, F. P	Lyons	Rush Medical College	1881
1875	Beggs, Geo. W	Sioux City	Rush Medical College	1862
1888	Beals, G. C	Lewis	Bellevue Hosp. Med, Coll	1886
1877	Bertram, Wm	Keokuk	Berlin, Prussia	1849
1875	Bice, D. C	De Soto	Medical Dept. S. U. I	1875
1886	Bigelow, I. S	Dubuque	Rush Medical College	1881
1889	Blakely, W. T	Confidence	Coll. Phys. and S., Keokuk	1875
1884	Bills, E. B	Durant	Rush Medical College	1879
1887	Blanchard, L	Edgewood	Buffalo University	1866
1877	Bosbyshell, C. B	Glenwood	Jefferson Medical College	1854
1889	Boothby, J. M	Dubuque	Detroit Medical College	1876
1884	Boucher, F. H	Marshalltown	Jefferson Medical Cotfege	1877
1871	Bowen, A. B	Maquoketa	Albany Medical College	1868
1881	Boys, Wm	Waverly	University of Pennsylvania	1864
1884	Brainerd, D. S	Staceyville	University of Buffalo	1875
1887	Bradley, C. C	Manchester	Bellevue Hosp. Med. Coll	1867
1888	Branson, W. S	Irwin	Rush Medical College	1882
1884	Brockman, D. C	Marengo	Medical Dept. S. U. I	1878
1882	Brookings, D. J	Woodward	Rush Medical College	1869
1887	Bower, E. L	Guthrie Cent	University of Michigan	1886
1886	Brown, H. W	Waterloo	Jefferson Medical College	1881

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1882	Brown, C	Sac City	Coll. Phys. and S., Keokuk	1877
1884	Brubaker, I. P	Des Moines	Jefferson Medical College	1881
1874	Bulis, H. C	Decorah	Vermont Medical College Jefferson Medical College	1854 1888
1882	Burbank, Oscar	Waverly	Harvard Medical Depart	1848
1877	Burd, Edwin	Lisbon	University of Pennsylvania	1871
1888	Buxton, L. H	Woodbine	University of Vermont	1884
1890	Branson, Laura H	West Branch	Med. Dept. Iowa S. U	1885
1890	Berry, R. P.	Clermont	McGill University, Montreal	1888
1890	Bean, H. W	Rolfe	Iowa State University	1886
1890	Baldwin, G	Ruthven	Mo. Med. Coll., St. Louis	1882
1890	Biller, J. G.	Correctionville,	Detroit Med. Coll.	1884
1890	Burt, C. I	Lake City	Coll. Phys. and S.. Keokuk	1887
1890	Braunsworth, J. S	Muscatine	Iowa State University	1876
1890	Bagley, G. L	Des Moines	Cleveland Med. Coll	1885
1888	Barstow, J. M	Council Bluffs	Coll. P. and S., Keokuk	1880
1888	Bergen, A. C	Sioux City	L. I. Coll. Hosp	1879
1868	Caldwell, J, T	Adel	Coll. Phys. and S., Keokuk	1863
1886	Campbell, W. D	St. Anthony	Medical Dept. S. U. I	1884
1884	Carder, J. D	Brooklyn	Long Island Hospital Coll	1876
1884	Cantwell, A. W	Davenport	University of Michigan	1869
1888	Carl, F. F	Nichols	Medical Dept. I. S. U	1886
1884	Chapman, C. C	Summerset	Ohio Medical College	1871
1873	Chase, S. B	Osage	Bowdoin Med. Coll., Maine	1849
1886	Chamberlain, H. D	Nevada	University of Michigan	1876
1886	Chatterton, A. S	Peterson	Medical Dept. S. U. I	1882
1887	Churchill, C. H	Ft. Dodge	Rush Medical College	1886
1872	Clapp, E. F	Iowa City	Bellevue Hosp. Med. Coll	1870
1884	Clark, C. F	Dunlap	University of Michigan	1881
1875	Clark, E. W	Grinnell	Rush Medical College	1871
1887	Clark, R. D	Akron	Rush Medical College	1875
1887	Clark, S. W	Oskaloosa	Medical Dept. S. U. I	1886
1883	Cleaver, J. H	Council Bluffs	University of Maryland	1879
1888	Cleaves, Marg. A	Des Moines	Medical Dept. S. U. I	1873
1888	Cleaves, R. I	Cherokee	Harvard Medical College	1869
1887	Clingan, C. E	Sioux City	Rush Medical College	1877
1888	Cobb, E. A	Harlan	Charity Hosp. Medical Coll	1868
1887	Coit, G. W	Mo. Valley	Bellevue Hosp. Medical Coll	1866
1883	Cokenower, J. W	Des Moines	Louisville Medical College	1880
1887	Conniff, R. E	Sioux City	Medical Dept. S. U. I	1884
1885	Cooling, A. A	Wilton	Miami Medical College	1872
1867	Cornes, Wm	Tama City	Coll. Phys. and S., Keokuk	1863
1888	Cook, E. S	Harlan	Coll. Phys. and S., Keokuk Coll. Phys. and S., Chicago	1876 1885
1888	Coveney, J. T	Dawson	Coll. P. and S., St. Joe, Mo	1882
1878	Cox, J. B	Belle Plaine	Coll. Phys. and S., Keokuk	1865
1885	Craig, N. S	Manchester	Rush Medical College	1871
1884	Crawford, G. E	Cedar Rapids	Bellevue Hosp. Med. Coll	1879

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1872	Criley, B. H	Dallas Center	Jefferson Medical College	1871
1873	Crouse, D. W	Waterloo	Long Island Medical Coll	1869
1880	Cruttenden, F. E	Des Moines	University of Buffalo	1877
1890	Campbell, C. L	Lewis	Miami Medical College	1881
1890	Cutler, F. H	Bancroft	Chicago Medical College	1882
1890	Carroll, J. M	Laurens	Iowa State University	1879
1890	Cole, J. F	Oelwein	Iowa State University	1887
1890	Chase, C. S	Waterloo	Rush Medical College	1882
1890	Carothers, F. S	Des Moines	Woman's Med.Coll.,Chicago	1885
1890	Cottle, C. C	Marshalltown	Rush Medical College	1889
1890	Crouse, Eugene A	GrundyCenter	University of Pennsylvania	1870
1883	Darnall, C. F	West Union	Rush Medical College	1882
1882	Dashiell, M. A	Hartford	Indiana Cent. Med. Coll	1851
1885	Davis, W. H	Maquoketa	Jefferson Medical College	1861
1886	Davis, M. L	Agency	Medical University N. Y	1884
1887	Davis, W. O	Sioux City	Geneva Medical College	1847
1875	Dean, H. M	Muscatine	Coll. Phys. and S., N. Y	1861
1872	Deering, A. A	Boone	Maine Medical College	1868
1882	De Motte, C. W	Audubon	Medical Dept. S. U. I	1881
1887	Densmore, D. T	Jamaica	Coll. Phys. and S., Chicago	1886
1888	Deshler, J. J	Glidden	Coll. P. and S., Baltimore	1880
1884	De Tarr, D. N	Boone	University of Michigan	1880
1885	Divine, J. H	Sioux Rapids	Coll. Phys. and S., Keokuk Bellevue Hosp. Med. Coll	1879 1883
1888	Doty, E. A	Oxford	Medical Dept. S. U. I	1885
1888	Downey, J. W	Marshallto'n	Coll. Phys. and S.. Keokuk L. I. Coll. Hosp., Brooklyh	1876 1882
1882	Drumeler, C. M	Panora	St. Louis Medical College	1876
1885	Dwyer, W. G	Independence	Rush Medical College	1880
1890	Dalby, James W	Cedar Rapids	Coll. P. and S., New York	1888
1890	Dunn, E. H	Elma	Rush Medical College	1885
1890	Davis, J. C	Emmettsburg	Iowa State University	1880
1884	Eckley, W. T	Ft. Madison	Medical Dept. S. U. I	1884
1886	Eddy, W	Waterloo	University of Michigan	1863
1875	Emmert, J. M	Atlantic	Jefferson Medical College	1872
1884	Enfield, Chas	Jefferson	Coll. Phys. and S., N. Y	1869
1878	Ensign, H. D	Boone	Chicago Medical College	1875
1884	Eschbach, H. C	Albia	University of Pennsylvania	1883
1879	Evans, O. E	Gowrie	Coll. Phys. and S., Keokuk	1879
1889	Everett, F. M	Corydon	Coll. Phys. and S., Keokuk	1864
1874	Fairchild, D. S	Ames	Albany Medical College	1868
1886	Failor, Benj, M	Newton	Jefferson Medical College	1855
1884	Farr, H. M	Mt. Pleasant	Castleton Medical College	1855
1882	Farr, H. S	Madrid	Medical Dept. S. U. I	1881
1889	Ferguson, J. W	Promise City	Coll. Phys. and S., Keokuk	1880
1865	Field, A. G	Des Moines	Starling Medical College Coll. Phys. and S., N. Y	1853 1863
1888	Finch, H. C	Lynville	Indiana Medical College	1881

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1884	Finlayson, D. W	Des Moines	University of Michigan	1875
1883	Fitzgerald, Wm	Grand Mound	Medical Dept. S. U. I	1876
1886	Fordyce, Oscar	Guthrie Cent'r.	Coll. Phys. and S., Chicago,	1885
1885	Frederick, Mary	Des Moines	Coll. Phys. and S., Keokuk	1884
1886	Fuller, Geo. H	Delhi	Chicago Medical College	1869
1886	Fullerton, P. J	Raymond	University of Michigan	1879
1890	Fullerton, O. J	Waterloo	Iowa State University	1886
1890	Frizelle, C. H	Viele	Iowa State Universitv	1886
1886	French, L	Davenport	Berkshire Medical College	1853
1879	Getz, H. L	Marshalltown	Jefferson Medical College	1874
1883	Gilman, H. A	Mt. Pleasant	Dartmouth Medical College	1866
1871	Gorrell, J. R	Newton	University of Buffalo	1860
1882	Gould, Edith M	Des Moines	Woman's Med. Coll., Phila	1878
1883	Graham, W. F	Atlantic	Rush Medical College	1880
1889	Graham, J. H	Morning Sun	Ohio Medical College	1847
1887	Gregg, A. E	Panama	Jefferson Medical College	1880
1877	Griffin, C. C	Vinton	University of Michigan	1868
1885	Grimes, W. S	Wapello	Rush Medical College	1874
1878	Grimmell, G. H	Jefferson	Coll. Phys. and S., Keokuk	1874
1882	Grossman, D. S	Dallas Center	University of Pennsylvania	1877
1884	Grover, B. B	Grimes	Long Island Hosp. Med, Col.	1879
1887	Guthrie, J. R	Dubuque	Medical Dept. S. U. I	1884
1890	Gamble, W. E	What Cheer	Rush Medical College	1885
1890	Green, W. N	Webst'r City	Rush Medical College	1881
1887	Hackett, C. J	LeMars	University, N. Y	1861
1882	Hale, W. W	Des Moines	Coll. Phys. and S., Keokuk	1877
1885	Hamilton, C. H	Dubuque	Rush Medical College	1873
1869	Hanawalt, G. P	Des Moines	Med. Dept Geo. Coll., D. C	1864
1886	Hanna, Rebecca	Red Oak	Med. Dept. S. U. I	1874
1886	Harsh, I. M	Griswold	Phys. and Surgs., Chicago	1883
1867	Hazen, E. H	Davenport	Charity Hospital Med Coll	1866
1889	Harvey, S. N	Neola	Bellevue Hosp. Med. Coll	1875
1888	Henderson, H. E	Des Moines	Rush Medical College	1888
1886	Hewett, S. R	Charles City	Rush Medical College	1867
1887	Hiatt, F. M	Red Oak	Rush Medical College	1865
1877	Hill, Gershom H	Independence	Rush Medical College	1874
1881	Hill, Nancy M	Dubuque	University of Michigan	1874
1878	Hillis, D. B	Keokuk	St. Louis Medical College	1847
1859	Hinsey, J. C	Ottumwa	Rush Medical College University of Pennsylvania	1851 1854
1886	Hinrichs, Gustav	Iowa City	Mo. Med. Coll., St. Louis	1872
1872	Hobby, C. M	Iowa City	Bellevue Hosp. Med. Coll	1870
1888	Hobson, A. J	Bristow	Med. Dept. S. U. I	1884
1885	Hoffman, R. C	Oskaloosa	Jefferson Medical College	1883
1879	Holliday, J. W	Burlington	Coll. Phys. and S., Keokuk	1869
1888	Hornibrook, E	Cherokee	Univ. of Victoria Coll., Can	1861
1889	Horton, J. D	Nashua	Coll. Phys. and S., Chicago	1884

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1886	Howe, W. C	Menlo	Bellevue Hosp. Med. Coll	1882
1889	Hughes, J. C	Keokuk	Coll. Phys. and S., Keokuk	1871
1880	Hunter, H. E	Newton	Western Reserve Md. Coll	1869
1885	Hutchins, J. H	Hampton	Rush Medical College University of New York City	1871 1881
1885	Hutchinson, W	Des Moines	University of Michigan	1884
1886	Hyatt, B. F	Ottumwa	Starling Medical College	1869
1890	Hoffman, D. A	Oskaloosa	Western Resem Med. Coll	1848
1890	Hoering, G. P	Walnut	Iowa State University	1888
1890	Hoff, A. W	Des Moines	Ia. Coll. P. and S. Des Moines	1886
1890	Henry, C. W	Coon Rapids	Rush Medical College	1884
1890	Hinshaw, Wm	Dallas Center	Coll. P. and S., Keokuk	1874
1890	Hess, Elizabeth	Iowa City	Iowa State University	1874
1890	Harp, J. F	Prairie City	Iowa State University	1884
1889	Ingels, J. B	Meriden	Bellevue Hosp. Med. Coll	1878
1888	Jeffrey, J. A	Nevada	Keokuk Med. Coll., Iowa	1881
1885	Jenkins, E. R	Washington	Bellevue Hosp. Med. Coll	1884
1869	Jenkins, Geo. F	Keokuk	Mo. Med. Coll., St. Louis	1866
1887	Jepson, Wilhelm	Sioux City	Medical Dept. S. U. I	1886
1884	Jewell. P. M	Ossian	University of Michigan	1873
1887	Johnson, J. P	Sioux City	Ohio Medical College	1859
1884	Jones, N. Jasper	Shelby	Medical Dept. S. U. I	1883
1886	Jones, U. C	Breda	I. C. P. and S., Des Moines	1885
1883	Joor, Peter	Maxwell	Medical Dept. S. U. I	1881
1887	Joraleman. J. C	Toledo	Rush Medical College	1877
1890	Jennings, H. B	Council Bluffs	Coll. Phys. and S., Keokuk	1882
1885	Kemper, J. F	Keokuk	Coll. Phys. and S., Keokuk	1885
1889	Kersey, J. H	Stuart	Bellevue Hosp. Med. Coll	1886
1869	Kennedy, J. F	Des Moines	University of N. Y. City	1848
1886	Kessler, J. B	Iowa City	Medical Lept. S. U. I Bellevue Hosp. Med. Coll	1877 1883
1884	King, Azuba D	Des Moines	Medical Dept. S. U. I	1876
1881	King, E. H	Muscatine	Detroit Medical College	1870
1889	Kinniman, H. A	Keokuk	Coll. Phys. and S., Keokuk	1882
1888	Kime, Sarah A	Ft. Dodge	Medical Dept. S. U. I	1882
1888	Kinnier, W. H	Dubuque	Albany Medical College	1870
1876	Knott, J. M	Sioux City	Columbia Med. Coll., D. C	1870
1887	Krebbs, Jacob	Hampton	Medical Dept. S. U. I	1886
1885	Krejci, J. C	Sioux City	Vienna, Austria	1862
1890	Kelleher, T. F	Des Moines	Iowa State University	1878
1885	Kime, J. W	Ft. Dodge	Bellevue Coll., Boston	1883
1883	Lacy, T. B	Council Bluffs	Chicago Medical College	1875
1881	La Grange, J. W	Marion	Rush Medical College	1875
1879	Langan, D	De Witt	Coll. Phys. and S., Keokuk	1863
1888	Latta, W. J	Des Moines	Chicago Medical College	1881
1882	Layton. H. R	Leon	Coll. Phys. and S., Keokuk	1874
1889	Leech, C. A	Keokuk	Coll. Phys. and S., Keokuk	1876

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1884	Le Roy, H. C.	Des Moines	University Victoria College	1857
1889	Leith, A. R	Wilton	Iowa State University	1882
1885	Lewellen, P. W.	Clarinda	Ohio Medical College	1865
1875	Lewis, C. G	Ottumwa	Coll. Phys. and S., Keokuk	1850
1881	Lewis, John S	Dubuque	Jefferson Medical College	1868
1887	Lewis, J. R	Grinnell	Bellevue Hospital College	1885
1889	Lezotte, G. D	Muscatine	Rush Medical College	1887
1886	Liebhardt, Laura	Des Moines	University of Michigan	1884
1889	Little, Geo. B	Burlington	St. Louis Medical College	1885
1888	Littig, L. W	Davenport	Medical Dept. S. U. I University of Pennsylvania College of Surgeons, London	1883 1884 1887
1889	Little, F. H	Muscatine	Iowa State University	1879
1880	Lonsdale, James	Dale City	Rush Medical College	1879
1875	Love, J. S	Springville	Jefferson Medical College	1856
1883	Lowry, O. W	Grand Junc	Coll. Phys. and S., Keokuk	1873
1889	Lunbeck, D. W	Mediapolis	Starling Medical College	1879
1886	Lyon, J. H	Boone	Coll. Physicians, Des Moines	1885
1883	Lytle, S. S	Iowa City	Medical Dept. S. U. I	1878
1890	Lakin, A. M	Yale	Rush Medical College	1884
1890	Louthan, B. S	Sutherland	Iowa State University	1873
1882	Macrae, Donald	Council Bluffs	Edinburg, Scotland	1861
1879	Markham, H. C	Independence	University of N. Y. City	1859
1888	Matthews, W. L. H	Des Moines	Coll. P. and S., Des Moines	1886
1889	Morton, Wm. M	Iowa Falls	Iowa State University	1881
1884	Maxwell, Thos. J	Keokuk	Coll. Phys. and S., Keokuk	1861
1885	McClain, W. H	Beaman	Chicago Medical College	1878
1887	McCarthy, J. F	Dubuque	Minn. Hospital College	1883
1883	McCleary, H. C	Indianola	Rush Medical College	1881
1889	McCleary, J. D	Indianola	Coll. Phys. and S., Keokuk	1867
1884	McClees, C. H	Marne	Medical Dept. S. U. I	1881
1860	McCluer, B	Dubuque	Massachusetts Med. Col	1852
1880	McClure, A. W	Mt. Pleasant	University of Pennsylvania	1360
1889	McCulloch, Geo	Humeston	Rush Medical College	1873
1883	McCowen, Jennie	Davenport	Medical Dept. S. U. I	1876
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1889	McDill, David	Burlington	St. Lonis Medical College	1855
1878	McDowell, J. W	Des Moines	Jefferson Medical College	1866
1883	McGorrisk, E. J	Des Moines	St. Louis University	1856
1882	McKee, J. W	Des Moines	Cleveland Medical College	1870
1871	McMorris, J	Belle Plaine	University of Michigan	1864
1883	McNutt, Robert	Des Moines	Jefferson Medical College	1857
1888	McVay, J. D	Lake City	Coll. Phys. and S., Keokuk	1873
1885	Mehler, F. C	New London	Rush Medical College	1863
1877	Meredith, M	Vinton,	Ohio Medical College	1866
1879	Middleton, W. D	Davenport	Bellevue Hosp. Med. Coll	1868
1880	Minges, Geo	Dubuque	Bellevue Hosp. Med. Coll	1874

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1886	Moore, Chas. B	Des Moines	Miami Medical College	1885
1887	Moore, E. B	Harlan	University of New York	1881
1889	Moorehead, S. W	Keokuk	Coll. Phys. and S., Keokuk	1883
2870	Morgan, A. W	DeWitt	Coll. Phys. and S., Keokuk	1870
1870	Morgridge, G O	Muscatine	Coll. Phys and S., Keokuk Med. Dept. S. U. I	1870 1875
1888	Mueller, W. J	New Vienna	Nancy, France	1868
1887	Murphy, M. J	Cumberland	Med. Dept. S. U. I	1885
1890	Mason, Kate A	Mt. Vernon	Woman's Med. Coll., Chicago	1885
1890	Moser, P. S	Boone,	Penn. Med. Coll., Phila	1852
1883	Nicol, J. H	Lacona	Coll. Phys. and S., Keokuk	1873
1886	Nicholson, W. L	Ft. Dodge	D. M. Coll. P. and S	1883
1876	North, John	Toledo, O	University of Michigan	1868
1886	Nysewander, C	Des Moines	Starling Medical College	1879
1890	Noel, J. A	Redfield	Mo. Med. Coll., St. Louis	1886
1886	Osborne, E. W	Clair	Tacoma, Wash	
1890	Oliver, L. B	Dublin	Iowa State University	1887
1886	Ormiston, J. S	Chelsea	Med. Dept. S. U. I	1876
1888	Ott, William	Riverside	Coll. Phys. and S., Keokuk	1869
1884	Overholt, D. W	Columbus Junc	Bellevue Hosp. Med. Coll	1872
1880	Page, H. R	Des Moines	Med. Dept. S. U. I	1871
1879	Park, W. M	Indianola	Coll. Phys. and S., Keokuk.	1876
1876	Parr, T. S	Indianola	University of Michigan	1868
1887	Payne, Ira D	Linden	Med. Dept. S. I	1880
1865	Peck, W. F	Davenport	Bellevue Hosp. Med. Coll	1862
1886	Philpott, C. H	Burlington	Med. Dept. S. U. I	1882
1878	Pierce, S. N	Cedar Falls	Vermont Medical College	1856
1889	Peck, Frank P	Mt. Pleasant	Chicago Medical College	1883
1886	Pinney, C. H	CouncilBl'ffs	University of Michigan University of Pennsylvania	1864 1866
1888	Pipino, W. C	Des Moines	University of Maryland	1873
1886	Plumb, E. B	Ames	Chicago Medical College	1883
1884	Porterfield, E	Spring Hill	Bellevue Hosp. Med. Coll	1883
1882	Porterfield, F. W	Atlantic	Chicago Medical College	1879
1886	Powell, C. B	Albia	Coll. Phys. and S., Keokuk	1882
1880	Powers, J. L	Reinbeck	Coll. Phys. and S., Keokuk	1876
1879	Powers, M. J	Independence	Pittsburg, Mass	1865
1875	Preston, C. H	Davenport	Medical Dept. S. U. I	1873
1878	Priestley, J. T	Des Moines	University of Pennsylvania	1874
1880	Rawson, A. A	Corning	Rush Medical College	1855
1888	Reiterman, C	Le Grand	Medical Dept. S. U. I	1873
1886	Renshaw, L. L	Farmersburg	Medical Dept. S. U. I	1880
1874	Reynolds, A	Clinton	University of Vermont	1864
1882	Reynolds, E. M	Centerville	Coll. Phys. and S., Keokuk	1879
1884	Reynolds, J. D. R	Creston	Coll. Phys. and S., Keokuk Rush Medical College	1872 1876
1888	Rice, Charles	Smithland	Medical Dept. S. U. I	1878

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1888	Richards, W. O	Waterloo	University of Michigan	1855
	Richmond, Albert	Ames	New England Univ., Boston	1872
1885	Riley, John	Exira	Medical Dept. S. U. I	1880
1889	Riggen, J. W	What Cheer	Coll. Phys. and S., Keokuk	1878
1873	Ristine, H	Cedar Rapids	Ohio Medical College	1851
1878	Ristine, H. G	Fort Dodge	Rush Medical College	1869
1877	Ristine, J. M	Cedar Rapids	Bellevue Hosp. Med. Coll	1873
1888	Robbins, J. T	Newton	Bellevue Hosp. Med. Coll	1880
1880	Roberts, J	Osceola	Ohio Medical College	1865
1877	Robertson, J. C	Council Blfs	Medical Dept. S. U. I Bellevue Hosp. Med. Coll	1873 1883
1888	Robertson, C. M	Muscatine	Medical Dept. S. U. I	1888
1874	Robinson, S. E	West Union	Rush Medical College	1867
1888	Rogers, H. S	Red Oak	Coll. Phys. and S., Keokuk Coll. Phys. and S., Chicago	1876 1886
1887	Roome, J. S.	Calmar	University of Michigan	1866
1886	Ross, W. L	Angus	Rush Medical College	1883
1884	Rowe, G. D	Boone	Bowdoin Med. Coll., Maine	1868
1884	Ruth, C. E.	Muscatine	Medical Dept. S. U. I	1883
1890	Riordon, M. F	Melrose.	Iowa State University	1874
1890	Rawson, E. A	Slater	Coll. P. and S., Des Moines	1884
1800	Roberts, T	St. Chaarles	Coll. Phys. and S., Keokuk	1874
1887	Saunders, W. J	Scranton	Medical Dept. S. U. I	1880
1888	Schindel, C. M	Cumberland	Bellevue Hosp. Med. Coll	1887
1886	Savage, John P	Sioux City	Miami Medical College	1878
1880	Schooler, Lewis	Des Moines	Kentucky School of Med	1878
1875	Scofield, D	Washington	Albany Med. Coll., N. Y	1857
1886	Searl, B. W	Ottumwa	Coll. Phys. and S., Keokuk	1873
1883	Scroggs, J. A	Keokuk	Rush Medical College	1874
1861	Sears, Reuben	Marshalltown	Rush Medical College	1853
1888	Seymour, F. E	Ft. Dodge	Medical Dept. S. U. I	1879
1888	Shepherd, C. S	La Porte City	Rush Medical College	1881
1880	Sherman, J. A	Cherokee	Coll. Phys. and S., Keokuk	1873
1886	Sherman, J. M	Paton	Coll. Phys. and S., Keokuk	1880
1886	Sherman, W. B	Manchester	Cleveland Medical College	1870
1889	Sherman, E. Am	National	University of Michigan	1879
1884	Sherwood, Thos	Wilton	Miami Medical College	1878
1867	Schrader, J. C	Iowa City	Coll. Phys. and S., Keokuk Long Island Hosp. Med. Coll	1865 1870
1885	Sigworth, H. W	Anamosa	Rush Medical College	1863
1875	Skinner, Geo. R	Cedar Rapids	Bellevue Hosp. Med. Coll	1866
1885	Skinner, J. O	Polk City	Starling Medical College Coll. Phys. and S., Keokuk	1850 1855
1877	Skinner, W. M	Anamosa	Woodstock, Vermont	1858
1877	Sloan, M. G	Dexter	Rush Medical College	1873
1883	Smead, C. C	Knoxville	Rush Medical College	1880
1884	Smith, C. W	Muscatine	Medical Dept. S. U. I	1875
1872	Smith, J. W	Charles City	Yale Medical College	1855

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1886	Smith, E. R	Toledo	Rush Medical College	1876
1887	Smith, Irving W	Charles City	Jefferson Medical College	1875
1888	Smith, F. R	Fairfield	Coll. Phys. and S., Keokuk	1876
1889	Snook, C	Fairfield	Coll. Phys. and S., Keokuk	1869
1888	Speaker, W. T	Manson	Chicago Medical College	1878
1880	Spilman, S. A	Ottumwa	Chicago Medical College	1879
1886	Stanton. T. P	Chariton	Rush Medical College	1879
1879	Staples, G. M	Dubuque	Harvard University	1855
1889	Staples. Allen G	Dubuque	Coll. Phys. and S., New York	1885
1889	Stevens, J. Scott	Cedar Falls	Coll. Phys. and S., Chicago	1885
1877	Stockslager, S. O	Boone	Bellevue Hosp. Med. Coll	1874
1888	Stults, M.F	Wiota	Coll. Phys. and S., Keokuk	1878
1883	Stutsman, S. H	Burlington	Iowa University	1863
1885	Sugg, J. F. H	Sabula	Rush Medical College	1880
1883	Surber, L. H	Cool	Coll. Phys. and S., Keokuk	1877
1890	Sill, H. Newell	Strawberry Pt	Iowa State University	1873
1890	Sharp, Mrs. Mila B	Des Moines	Med. Coll., Columbus, Ohio	1884
1890	Smith, O. J	Dunkerton	Med. Coll., Columbus, Ohio	1882
1890	Stanton, J. E	Chariton	Coll. Phys. and S., Keokuk	1872
1890	Stoner, Charles E	Altoona	Coll. Phys. and S., Keokuk	1882
1890	Straub, Paul F	Mt. Pleasant	Iowa State University	1885
1890	Sansom, J. E	Tipton	Rush Medical College	1878
1883	Smouse, O. N	Monroe		
1890	Sones, C. O	Panora	Iowa State University	1886
1890	Scott, E. C	Maxwell	Iowa State University	1888
1888	Turner, A. B. L	Colfax	Coll. Phys. and S., Keokuk	1884
1890	Todd, W. A	Chariton	Indiana Medical College	1874
1890	Tuttle, Mary B	Burlington	Woman's Med. Coll., Chicago	1888
1890	Thornton, J. H	Lansing	Rush Medical College	1879
1886	Torry, B. N	Creston	St. Louis Medical College	1874
1888	Tedrow, J. B	Williams	University of Michigan	1886
1885	Templeton, H. M	Ames	Louisville Medical College	1877
1882	Thomas, F. S	Council Bluffs	Coll. Phys. rnd S., Keokuk	1870
1888	Tidd, C. H	Geneva	Medical College, Ohio	1873
1888	Townsend, D. J	Lohrville	I. C. P. and S., Des Moines	1887
1886	Turner, L. C. S	Colfax	Coll. Phys. and S., Keokuk	1882
1888	Twining, E. T	Des Moines	Chicago Med. Coll	1888
1883	Upson, Rosa M	Marshalltown	University of Michigan	1881
1888	Waite, J. H	Harlan	Medical Dept. S. U. I	1874
1888	Ward, A. J	Lamont	Medical Dept. S. U. I	1877
1881	Ward, G. B	Fairbank	University of Michigan	1880
1868	Ward, W. H	Des Moines	Coll. Phys. and S., Keokuk	1862
1887	Warren, J. W	Storm Lake	Miami Medical College	1871
1860	Watson, Wm	Dubuque	Rush Medical College	1854
1880	Watts, J. S	Millersburg	Jefferson Medical College	1867
1880	Weir, F. A	Jesup	Rush Medical College	1879
1880	Welch, Ira L	Humboldt	Cleveland, Ohio	1879

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1889	Weismann, A	Keoknk	Coll. Phys. and S., Keakuk	1864
1886	White, J. F	Council Bluffs	Indiana Medical College	1871
1878	Whitley, J. L	Osage	Rush Medical College	1869
1882	Wick, D. M	New Hartford	Chicago Medical College	1875
1886	Will, Fred J	Eagle Grove	Med. Dept. S. U. I	1883
1889	Williamson, J	Ottumwa	West. Reserve Med. Coll., O	1852
1883	Wood, Irving C	Logan	Jefferson Medical College	1880
1885	Woodbridge, W	Waubeek	Rush Medical College	1881
1875	Worley, Joshua	Belle Plaine	Starling Medical College	1861
1877	Wright, A. L	Carroll	Rush Medical College	1874
1890	Williams, J. Cal	What Cheer	Iowa State University	1888
1890	Worthington, D.H	Fairfield	Rush Medical College	1879
1890	Waters, P. T	Redfield	Ohio Medical College	1886
1890	Williams, W. J	Adel	Rush Medical College	1887
1890	Wallace, Chas. E	New Sharon	Miami Medical College	1885
1882	Wallace, W. S	Camanche	Coll. Phys. and S., Keokuk	1878
1880	Young, H. B	Burlington	Chicago Medical College	1875

CORRESPONDING MEMBERS.

Steele, N	Beloit, Kansas.
Hay, Walter	Chicago, Illinois.
Todd, J. F	Chicago, Illinois.
Grant, W. W	Denver, Colorado.
Holmes, G. W	Tabriz, Persia.

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ERATUM.—Page 140, title of Dr. Maxwell's paper, for "Remedy" read "Recovery."

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